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SECTION 1: Introduction

1.1 Safety Warning

CAUTION

No attempt should be made to operate this pulsed light system until the User Manual has been read and fully understood. In addition, a clear understanding of the biological effects of the interaction of light with tissue should be prerequisite to the use of this pulsed light system.

This device is intended solely for the purpose of cosmetic treatments. Any information supplied herein is meant as a reference and should not be used to replace any treatment protocols that have been implemented by an expert medical practitioner.

When not in use, this equipment should be protected from unqualified use by removal of the key from the keyswitch.

ALL OPERATORS OF THIS PULSED LIGHT SYSTEM MUST ATTEND THE SUPPLIER'S APPROVED TRAINING COURSE PRIOR TO USE OF THIS SYSTEM.

IEC 60601-2-57 determines this device is classified as Risk Group 2

1.2 Product Overview

This manual contains operation and maintenance information for the Energist UltraPlus Variable Pulsed Light (VPL™) System. Servicing of the system forms the subject matter of a separate Service Manual.

The Energist ULTRAPLUS is intended to be used for hair removal/reduction of unwanted hair, hypertrichosis or hirsutism, cosmetic skin rejuvenation and active acne. It emits a high energy pulse of non-ionising radiation in the region of 405nm to 950nm of the electromagnetic spectrum. The maximum energy density from the system is 51 J/cm^2.

The system has been designed to be versatile and safe, with an in-built safety feature that will identify which handpiece has been attached. The output of the Energist UltraPlus system is delivered to the skin, via optical coupling gel, from an ergonomically designed handpiece. Pre-set treatment parameters are included that have been determined through extensive clinical experience.

This system offers significant advantages over other systems:

- Aesthetic & ergonomic design
- Increased variable pulse type range
- Large spot size
- Flexible, menu driven, user friendly software
- Colour touchscreen interface
- Automatic identification of handpiece
- Full self-diagnostics
- Applicator Usage Inhibitor
- Pre-set starting treatment parameters
- User save & load functionality
- Multi-language interface capability

1.3 Intended Use / Indications

The intended use for the Energist UltraPlus VPL™ System is in the cosmetic field of hair reduction/removal for unwanted hair, benign cutaneous vascular lesions, benign pigmented lesions & skin rejuvenation. Cosmetic skin rejuvenation includes improvements in the visible signs of aging and sun damage.
The medical indications for the Energist UltraPlus VPL™ System include treatment for hypertrichosis or hirsutism, the treatment of mild to moderate inflammatory acne vulgaris and as the illumination source for Photodynamic Therapy.

1.4 Warnings

The Energist UltraPlus system should not be used on subjects with breached skin (abraided skin) or open sores in any area that comes into contact with the system. Doing so may increase the risk of transmission of infection between patients.

The Energist UltraPlus system requires proper cleaning and disinfecting procedures between each client use. Doing so can help prevent transmission of infection between patients. Refer to Section 3 for cleaning and disinfection instructions.

Any electrical outlet to which the Energist UltraPlus system is connected **MUST** incorporate an effective earth (GROUND) connection.

The Energist UltraPlus system is **NOT** designed for use in explosive, oxygen-enriched or nitrous oxide atmospheres.

Please return any unwanted systems to the manufacturer for safe disposal.

The initial installation, repairs and maintenance of the Energist UltraPlus system must be performed by an Energist Limited authorised service representative. Unauthorised repairs or modifications will VOID all warranties.

1.5 Precautions

- The Energist UltraPlus system is not protected against the ingress of liquids and should be used only in a clean, dry environment.
- Energist Optical Coupler Gel is for external use only.
- Always wear the supplied eyewear when operating the system.

1.6 Individualisation of Treatment

The Energist UltraPlus system has the ability to be set up to provide the correct treatment parameters for each individual client. The client must undergo a thorough health history consultation and understand any side-effects associated with the treatment. They must then sign an Informed Consent Form before any treatment is undertaken.

1.7 What is supplied

The Energist UltraPlus system package comprises of the following:

Quantity	Item	Part Number
1	Energist UltraPlus System	800-001
1	530nm Applicator	800-073
1	610nm Applicator	800-074
1	415/630 Applicator	800-075
1	Protective Eyewear – F3	600-012
1	Protective Eyewear – F5	600-013
6	Energist Optical Coupling Gel (250ml)	600-004
2	Protective Eyewear Case	600-011
2	Ultra Applicator Case	600-002
1	Starter Pack Accessory Case	600-001
1	User Manual - English	700-044
2	System Key	300-172
1	User Manual – CD Version	700-045

1.8 Technical Specification

Light Source:	Single Flashlamp, Reflective Cavity, Filter
Wavelength Range:	530nm Handpiece: 530nm – 950nm 610nm Handpiece: 610nm – 950nm Acne Handpiece: 405/630-950nm
Handpiece Waveguide:	BK7 Glass waveguide
Handpiece Filter:	530nm/610nm - Cut-on Absorption filter Acne - Dichroic filter
Max. Pulse Energy:	255 Joules
Pulse Duration:	3*ms, 5*ms and 7*ms
Pulse Sequencing:	2 – 15 pulses
Pulse Delays:	1*ms – 20*ms
Pulse Train Times:	7*ms – 385*ms
Repetition Rate:	Up to 0.5 Hz
Treatment area:	5 cm^2 (5cm x 1cm)
Energy Density:	530nm Handpiece: up to 51 J/cm^2 610nm Handpiece: up to 45 J/cm^2 Acne Handpiece: up to 25 J/cm^2 (Energy densities accurate to ±20%)
Interface Control Panel:	Full Colour LCD display with Touchscreen. Windows XP
Electrical:	100V (6.5A) to 240V (3.0A), 60/50 Hz. Continuous mode of operation.
Cooling:	Self contained, de-ionised water cooled
Environmental:	$10^{O}C$ to $30^{O}C$ Non-condensing humidities below 75% RH. **NOT** to be used in explosive, oxygen-enriched or nitrous oxide atmospheres.
Dimensions:	950mm x 430mm x 420mm (H x W x D)
Weight:	Approximately 54kg
Classification:	Electrical Class I, Type BF, Mobile Equipment. Class 2b Rule 9 – 93/42/EEC. Risk Group 2.
Ingress Rating:	IPX0. The system is not protected against the ingress of liquids and should be used only in a clean, dry environment.

*Pulse timing is microprocessor controlled to ± 2% accuracy

1.9 Space Requirements

Sufficient floor space is required for the Energist UltraPlus system. The dimensions for the system are 950mm x 440mm x 400mm.

A distance of approximately 50cm should be left clear around both sides and the rear of the system to allow for adequate ventilation.

The floor surface should not be a piled carpet; this will ensure adequate ventilation from the underside of the system.

Ambient room temperatures should not exceed $30^{O}C$.

1.10 Electromagnetic Compatibility

This product has been tested by an independent, accredited testing laboratory and found to meet the requirements of:

- BS EN 60601-1-2:2002

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This system, like all similar equipment, generates, uses and can radiate radio frequency energy which, if not installed and used in accordance with the User Manual, may cause interference to other equipment. (See Appendix C)

1.11 Transport and Storage

The storage and transport conditions for the Energist ULTRAPLUS™ were determined from specifications set by the manufacturers of critical components as follows:-

Temperature	$+5^{O}C$ to $+40^{O}C$
Relative Humidity	Not to exceed 75% Non-condensing
Operating Altitude	0 -10,000 feet (1060 – 700 kPa)

1.12 Manufacturer

This system is manufactured by:

Energist Limited
2 Park Pavilions
Clos Llyn Cwm
Enterprise Park
Swansea
UK
SA6 8QY
Tel: +44 1792 798768
Fax: +44 1792 762099
www.energistgroup.com

Section 2: Important Safety Information

2.1 Symbol Glossary

Symbols located on the Energist UltraPlus system.

OFF (Partially)
Note: Only the user interface has power supplied to it

ON (Standby)
Note: Touchscreen user interface is used to place system into Treat (charged) mode

Emergency Stop Button
Note: A sharp strike on the face of the button will cause the system to go into a safe mode, i.e. the HV unit and cooler will be immediately switched off and any energy stored will be safely discharged.
Rotate buttons in the direction indicated to release.

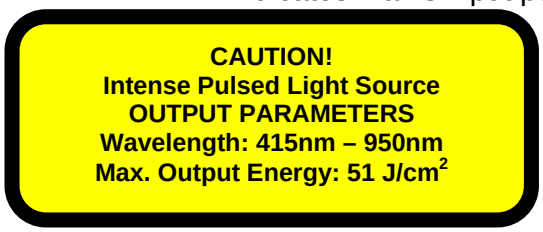
Caution
Indicates that the User manual should be read thoroughly before attempting to operate the system

Earth (Ground)
Found adjacent to all earth connections on or within the system

Protective Earth (Ground)
Found adjacent to all protective earth connections on or within the system

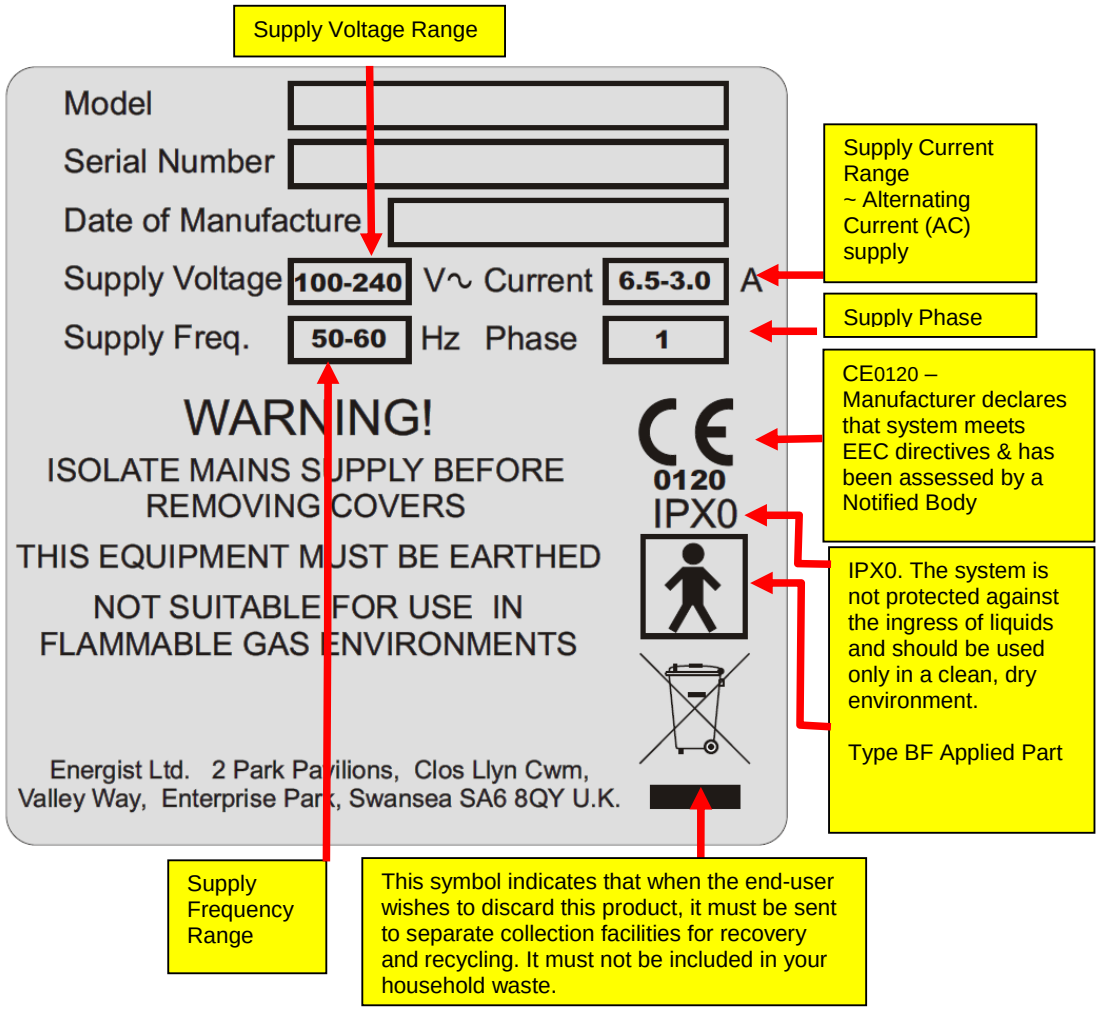
I **Mains Input Switch - ON**
Indicates mains input power is on

0 **Mains Input Switch – OFF**
Indicates mains input power is off



Safety Information Label

Mains Input Plate Label (on the rear of the Energist UltraPlus system.)


Supply Voltage Range
Model
Serial Number
Date of Manufacture
Supply Voltage 100-240 V~ Current 6.5-3.0 A
Supply Freq. 50-60 Hz Phase 1
WARNING!
ISOLATE MAINS SUPPLY BEFORE REMOVING COVERS
THIS EQUIPMENT MUST BE EARTHED
NOT SUITABLE FOR USE IN FLAMMABLE GAS ENVIRONMENTS
0120
IPX0
Energist Ltd. 2 Park Pavilions, Clos Llyn Cwm, Valley Way, Enterprise Park, Swansea SA6 8QY U.K.
Supply Current Range ~ Alternating Current (AC) supply
Supply Phase
CE0120 – Manufacturer declares that system meets EEC directives & has been assessed by a Notified Body
IPX0. The system is not protected against the ingress of liquids and should be used only in a clean, dry environment.
Type BF Applied Part
Supply Frequency Range
This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. It must not be included in your household waste.

2.2 Introduction to Safety

This chapter approaches the topic of the potential hazards involved in systems of this type, and contains information concerning safety warnings and possible hazards and how to avoid them. The potential hazards may concern either the Operator or the Patient, but by ensuring that all of the safety factors included in this manual are adhered to, the possibility of injury is remote.
A full understanding of the operation of this System, and of the treatment parameters, is essential to guard against any hazards and unwanted side-effects, and it is essential that all Operators of the Energist UltraPlus system read this manual and the appropriate Treatment Guides.

2.3 Definitions

Throughout this manual two main terms will be used, WARNING and CAUTION. These can be defined as:

WARNING Denotes that if the safety procedures as advised are ignored then the risk to either the Operator or the Patient is known to be severe, and potentially fatal.

CAUTION Denotes that if the safety procedures as advised are not adhered to then a risk may exist of injury to personnel, or damage to equipment and property.

2.4 Restrictions on Use

This equipment is intended for use by trained personnel only. There are no serviceable parts and no unauthorised personnel are to work on the Energist UltraPlus system at any time.

- Do not use the Energist UltraPlus system if you are not competent to do so!
- Do not eat or drink while using the Energist UltraPlus system!
- Do not use the Energist UltraPlus system if you know of any faults!
- Do not attempt to operate the Energist UltraPlus system without the handpiece attached!
- Only use the Energist UltraPlus system in accordance with the manufacturers' recommendations!
- Do not operate in oxygen enriched environments!
- Do not remove panels or casings if you are not qualified to do so!

2.5 Electrical Safety

WARNING

ONLY MANUFACTURER RECOMMENDED COMPONENTS AND ACCESSORIES ARE TO BE USED WITH THE **ENERGIST UltraPlus SYSTEM**.
ANY NON-STANDARD COMPONENTS USED WILL INVALIDATE THE WARRANTY AND WILL FAIL TO COMPLY WITH ANY LOCAL REGULATIONS.
ANY UNAUTHORISED SERVICE OR PARTS MAY RESULT IN A SAFETY HAZARD AND DEGRADATION IN PERFORMANCE.

The manufacturer of the Energist UltraPlus system has made every effort to ensure the personal safety of all its users by incorporating as many safety features as possible. However, it is still the responsibility of every user to safely use the Energist UltraPlus system and follow the guidelines stated.

There are two distinct electrical hazards associated with the Energist UltraPlus system, namely:

- Mains Inputs
- Derived Supplies

2.5.1 MAINS INPUT

This refers to the main supply of energy from the plug in the wall, and will either be 110 or 240 Volts. This supply is known as Alternating Current (AC) and will have a frequency of either 50 or 60 Hertz (Hz). To protect all users from this supply the Energist UltraPlus system is earthed through the mains cable. To avoid any possibility of electric shock the mains cable must only be plugged into a suitably wired mains point. Do not plug the Energist UltraPlus system in via a multi-plug or extension block. The metal case is then earth bonded to further protect users in the event of an electrical fault.
Do not remove panels or casings if you are not qualified to do so!

2.5.2 DERIVED SUPPLIES

Within the Energist UltraPlus system there are a number of components that store the mains input and convert it to a higher voltage. These voltages, known as Derived Voltages, can be in the order of 20,000 Volts (20kV). Even when the mains have been turned off, a residual charge may still be present and can be potentially very dangerous.

2.5.3 FIRE HAZARDS

Fires can occur within electrical equipment, therefore it is imperative that you have the appropriate ‘electrical’ fire extinguisher in the room where the Energist UltraPlus system is being used. More information regarding appropriate fire extinguishers will be available from your local Fire Officer.

- Do not use water around electrical equipment

- Do not use flammable substances when using the Energist UltraPlus system

2.6 Mechanical Safety

CAUTION

The Energist UltraPlus system has been specifically designed to ensure maximum safety in a clinical setting. However, you must take great care when using or moving the system. The main mechanical safety issues are:

2.6.1 WEIGHT/MOVEMENT

The Energist UltraPlus system is on castors for ease of movement, however, it is heavy and once moving will not stop immediately. Take care when moving the Energist UltraPlus system as it will not stop immediately and may cause damage to personnel, clinic fittings and internal components.

- Do not try to lift the Energist UltraPlus system
- Do be careful when moving the system
- Do engage brakes on the front castors when system is stationary
- Do not lean anything against the system
- Do ensure that the system is located on suitably strong and level flooring
- Do ensure that there is a gap of approximately 50cm (18 inches) between the Energist UltraPlus system and any wall or major appliance.

2.6.2 CABLES

There are various cables associated with the Energist UltraPlus system. Good cable placement will ensure that potential hazards are reduced.

- Do not place a cable in any walkways
- Do not place cables next to any heating appliances
- Do not place cables across doorways
- Do not pull system with power cable or Handpiece cable
- Do not overextend Handpiece cable
- Do not excessively bend Handpiece cable

2.6.3 HANDPIECE

The handpiece is a delicate piece of electro-optical equipment. Please be careful when using, changing or storing the handpiece. The handpiece houses a water chamber, please be careful not to mechanically damage or take apart the external housing. There is the potential of residual high voltages within the handpiece which may pose a serious potential hazard if the handpiece is damaged. The waveguide is made of glass and may chip if damaged. Please ensure before each treatment that the waveguide is undamaged.

- Do not drop the handpiece
- Do not inflict a sudden impact on the handpiece

- Do keep the handpiece clean at all times
- Do not immerse the handpiece in any liquid
- Do not use a flammable cleaner on the handpiece immediately prior to, or post-treatment
- Do not use the handpiece if there are any water leakages
- Do not attempt to take the handpiece apart
- When changing the handpiece please remove the water connectors first and shake out any excess
- Do ensure that the electrical connectors are always kept dry and free from any contamination

2.6.4 MOVING PARTS

The Energist UltraPlus system requires fans and pumps internally to operate effectively.

- Do not poke objects into the system
- Do not push fingers into fan vents

2.7 Optical Safety

WARNING

The Energist UltraPlus system emits a high intensity flash of light that has the potential to damage unprotected eyes. Both Operator and Patient must wear the recommended protective eyewear before commencing treatment. The ocular hazard distance is 1 metre.

2.7.1 Recommended Eyewear

	Patient	**Operator**
Type of Eyewear	High density safety glasses	Safety glasses
Wavelength Range:	200 – 1800 nm	200 – 1800 nm
Colour:	Dark Green	Green
Part Number:	D166-F-5	D166-F-3

- Only use eyewear that is supplied, or has been approved, by Energist Limited. Failure to comply may result in damage to the operator or client's vision.
- Never fire the handpiece directly at anyone's eyes
- Never look directly into the waveguide when the system is armed
- Always ensure that eyewear is worn by any persons in the treatment room.

2.8 Administrative & Procedure Control

The practical use of high powered optical systems in cosmetic medicine means that additional administrative controls are necessary to provide safe working conditions. The extent to which these, and additional procedures, must be implemented depends on the local registering authority. More information on the guidelines that are pertinent to your clinic must be obtained from the relevant authority and implemented as required.

Every Energist UltraPlus system is to have a set of simple operational rules which govern its use. A generic set of rules that may be adapted for each individual clinic is included in this manual.

Section 3: Cleaning and Maintenance

3.1 General Cleaning

Before cleaning maintenance is carried out please ensure that the system is disconnected from the mains supply. The Energist UltraPlus system cabinet may be cleaned on a regular basis by simply wiping down with a slightly damp cloth. Soiled materials should be disposed of in an appropriate manner.

3.2 Cleaning the Handpiece

Cleaning the handpiece between each client is essential as it will reduce any chances of cross-infection and any residual gel, which may interfere with the light output.

- Residual gel should be thoroughly wiped from the waveguide using a disposable tissue or towelling. Repeat if necessary.
- Remove any residue with a clean damp cloth and wipe dry.
- Sterilise the waveguide using a proprietary sterilising fluid or wipe.
- Dispose of tissue or wipe in an appropriate manner.
- DO NOT USE any abrasive cleaners.

3.3 Maintenance

Caution: There are no user serviceable parts within the Energist UltraPlus system. Maintenance and servicing should only be carried out by Energist Ltd qualified engineers. Any maintenance or servicing should be carried out in an access-restricted area.

A regular visual inspection of the system should be carried out before each use. This should be done to ensure there are no signs of wear, cracks or breaks in the casing, power cable, waveguide, handpiece and handpiece cable.

Preventative maintenance for the Energist UltraPlus system should take place at the end of year 1.

On-going maintenance contracts are available from your Distributor after year one. Please contact your local distributor for details.

SECTION 4: Using the Energist UltraPlus System

4.1 Introduction

The aim of this section is to introduce the features of the ***Energist UltraPlus*** and how to operate it safely and effectively. Simple step-by-step instructions and graphics will guide you through the set-up and use of the system.

This section is not intended to replace hands-on training and no person should use this system without first undergoing the manufacturers' recommended training course.

4.2 Attaching the applicator

Before switching on the system it is necessary to attach the required applicator. The following procedure should be followed:

1. Ensure key switch is set to off (0) and main switch at rear of the system is off
2. Open side panel (middle right) where handpiece connections are located
3. Remove required handpiece from case and gently rock the head to and fro to remove any air bubbles
4. Place handpiece in the cradle
5. Firstly connect the power & communications connector and ensure the notch on the top lines up with the small screw head
6. Next insert the water connector with the release clip at the top
7. Ensure pressure is evenly applied to water connector housing when inserting
8. Ensure that the water connector nozzles are securely inserted
9. Secure main cable into holder
10. Secure side panel
11. Ensure Emergency Stop switch is out – rotate clockwise to release.
12. Rotate key switch to the on (I) position
13. Turn on main switch at rear of system
14. The system will now initiate after a short delay into its "soft start" sequence

4.3 Removing the Applicator

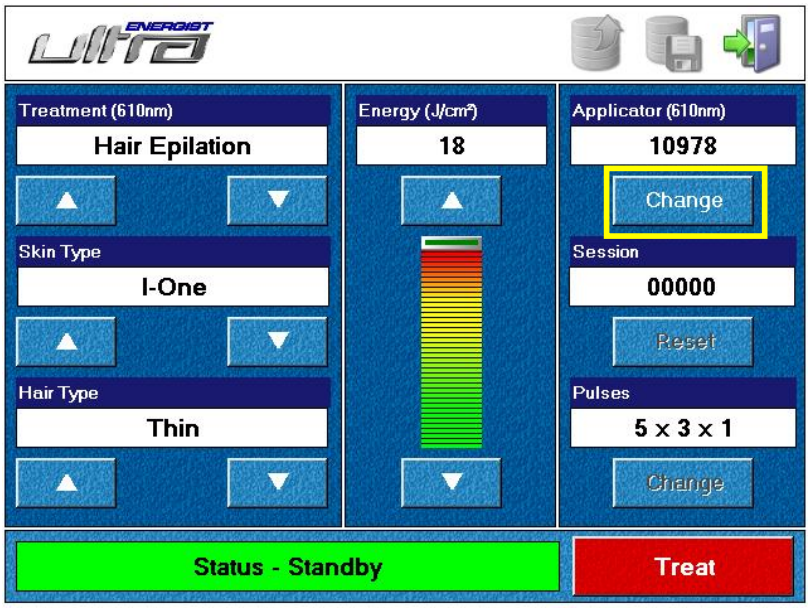
If the system is **OFF** the applicator may be removed by:

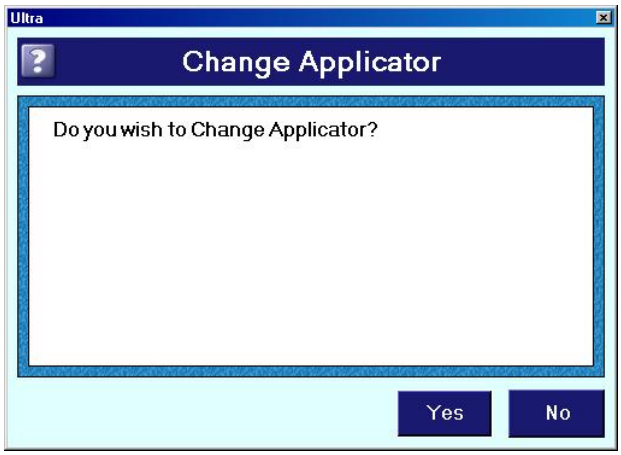
1. Open side panel (middle right) where handpiece connections are located
2. Remove main cable from holder
3. Depress water connector tab and gently remove. Shake to dispel excess water
4. Pull on outer sheath of power/communications cable connector to release lock and pull firmly out

4.4 Changing the Applicator

If the system is **ON**, the applicator may be changed by:

1. Select **Change** below the **Applicator information** (top right hand side)
2. Tap **Yes** to confirm
3. Wait for system to confirm it is safe to change the applicator
4. Open side panel (middle right) where handpiece connections are located
5. Depress water connector tab and gently remove. Shake to dispel excess water
6. Pull on outer sheath of power/communications cable connector to release lock and pull firmly out





7. Once the applicator has been changed, tap OK to continue

Please note: If the applicator attached to the system is not suitable for the prescribed treatment a Warning box will appear. To accept to carry on using the applicator tap **OK** to continue.

4.5 To Turn On the system

To turn on the system, please follow this procedure:

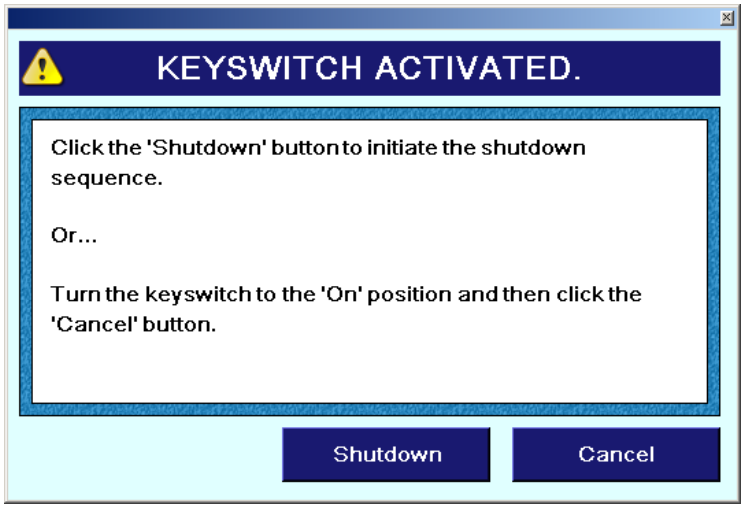
1. Ensure required handpiece is attached
2. Ensure emergency stop button is out. Rotate button in direction of arrows to release
3. Plug mains lead into rear of system
4. Plug mains lead into wall outlet and switch on
5. Turn on mains switch at rear of system
6. Rotate key to **ON** position
7. The system will now start after approximately 5 seconds
8. If the system does not start please go to Troubleshooting section

4.6 To Shut Down the System

To safely shut down the system, please follow this procedure:

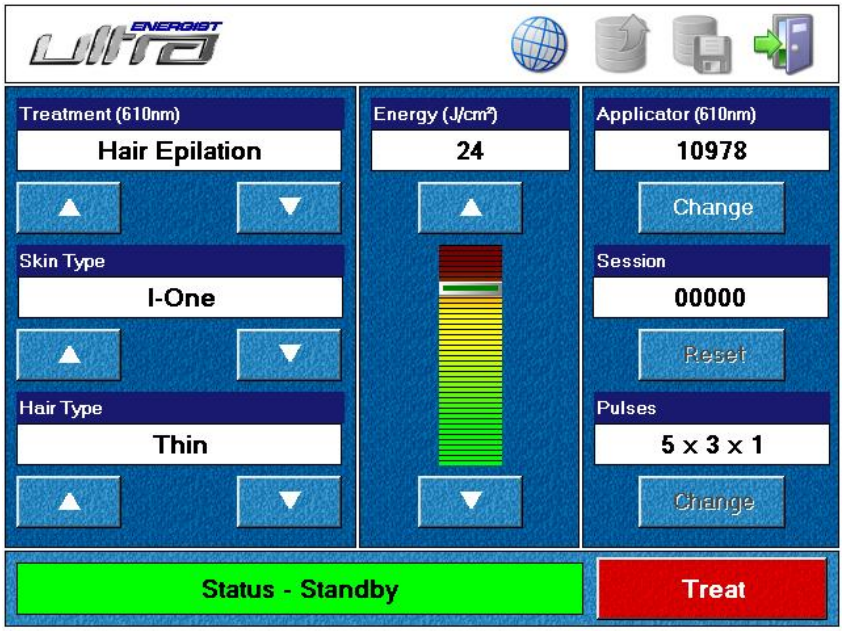
1. Press the icon
2. Select **Shutdown** by pressing the down arrow

3. Select **OK** to turn off system
4. Wait for software to shutdown and the screen to go black
5. Turn key switch to off (0) position
6. Turn off main switch at rear of the system
7. Alternatively you can simply rotate the key switch to the off (0) position and tap Shutdown, then turn off the main switch at the rear once the screen has gone black.


KEYSWITCH ACTIVATED.
Click the 'Shutdown' button to initiate the shutdown sequence.
Or...
Turn the keyswitch to the 'On' position and then click the 'Cancel' button.
Shutdown
Cancel

4.7 User Interface

As you will see, the Energist UltraPlus system has been designed with the user in mind. The touchscreen technology provides an intuitive and enhanced user interface which allows the user to quickly and easily select the required parameters to provide safe and successful treatments. To operate the touchscreen simply tap the screen firmly on the area you want to select.
Please ensure that your finger is clean and free from gel or cream



4.8 Logging On

Once the system has been started up it is required that the operator logs on to the system with the appropriate **User Id** and **Password**. The default **User ID** for the system is **USER2**.

Please ensure that the exact password for the appropriate User ID is entered

To log on:

1. Type in your **Password** as supplied
2. Press the **OK** button
3. If you typed in an incorrect **Password** nothing will happen
4. Re-try from step 1
5. If this fails again contact your clinic manager to ensure the login details supplied to you are correct

4.9 Logging Off

After you have finished the treatment session it is advisable to log off from the system. This disables the main menu and does not allow unauthorised users to operate the system.

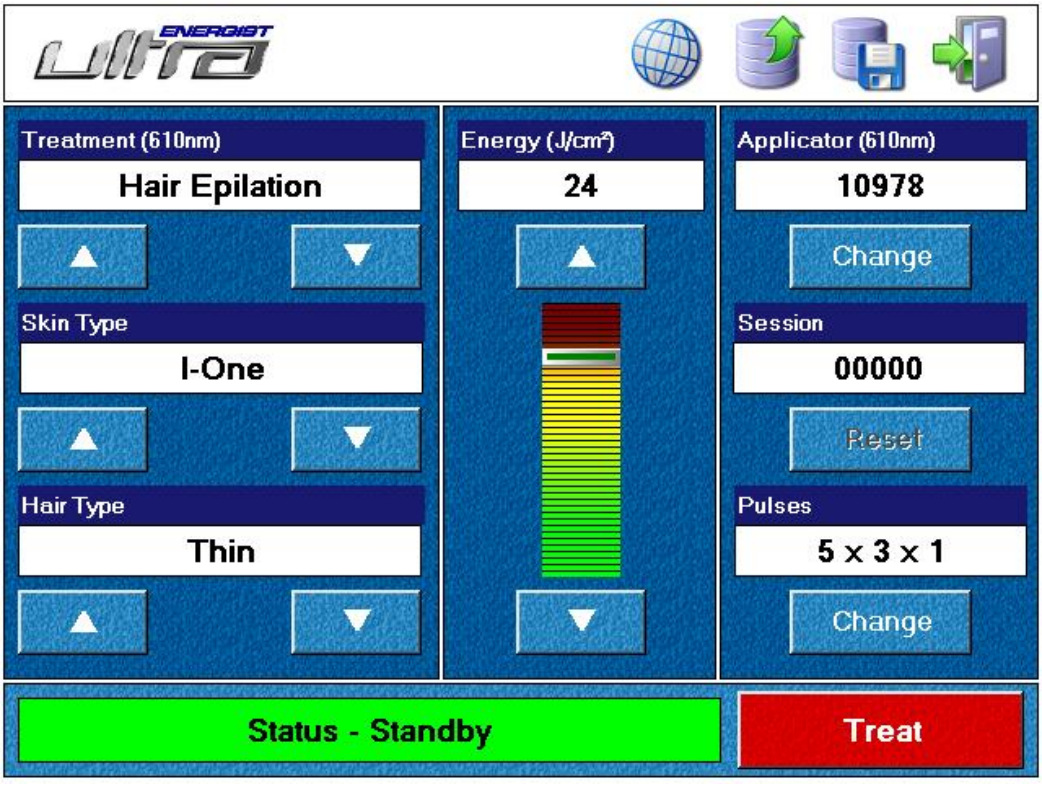
To log off:

1. Select the icon
2. **Log Off** will be selected
3. Tap **OK** to confirm

The log in screen should now appear (See 4.8).

4.10 Main Menu

If you have successfully logged on you will now be on the main treatment menu. The main menu supplies information regarding applicator type, shots remaining on the applicator, pulse counter, treatment parameters and user preferred settings.



Treatment	This drop down menu allows you to select the required treatment and provides the most appropriate settings.
Hair Epilation	Hair removal setting.
Skin Therapies	Use for general skin rejuvenation procedure.

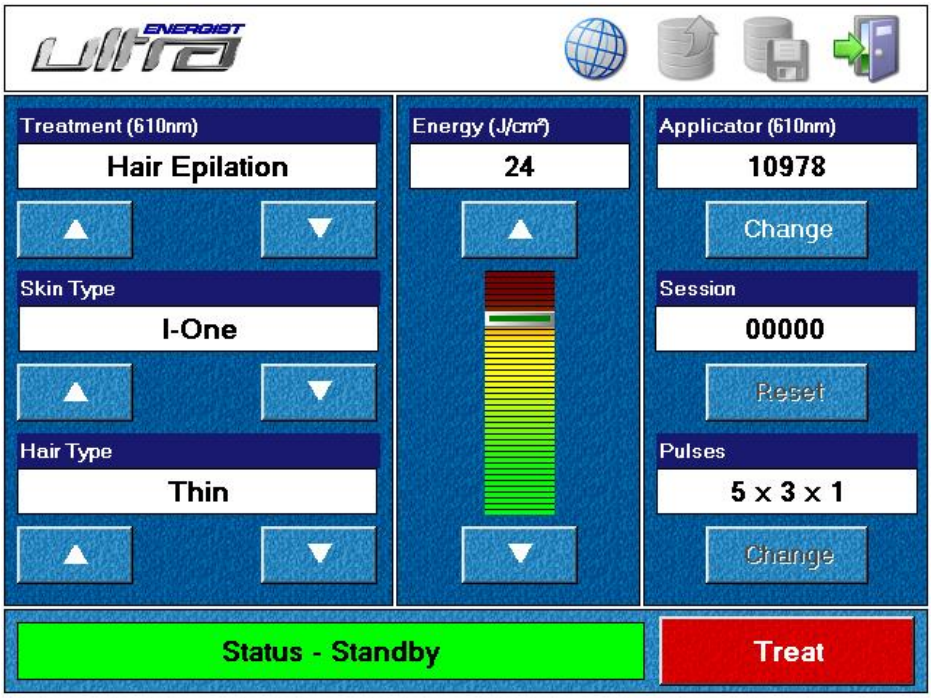
Thread Veins Body	Use for treatment of Thread veins on the trunk or legs.
Thread Veins Face	Use for the treatment of facial thread veins
Acne Vulgaris	Allows for treatment of mild to moderate active acne
Pigmentation	Use for the treatment of epidermal pigmented lesions (Solar or senile lentigines)
Skin Type	Refers to the skin type of the client as based on the Fitzpatrick Scale
Hair Type/Degree/ Vein Type/Depth	Allows a specific selection dependent upon which treatment is to be carried out.
Energy (J/cm^2)	Indicates the energy density set for the treatment. This can be increased or decreased using the up/down arrows or by dragging the indicator bar up or down the slider
Applicator	
(Type)	Indicates which applicator is attached to the system.
Shots	Indicates how many shots are remaining on the applicator.
Change	Change button allows you to change the applicator while the system is on. (See 4.4 Change the Applicator)
Session	Indicates how many shots have been fired. This count can be reset, thus is useful for recording treatment data.
Pulses	Pressing the Pulses button allows the user to alter the pulse settings. (Only available in **USER3**)
Treat/Standby	Treat/Standby button allows you to put the system into charge mode or back into standby. Toggles between Treat and Standby.
Status	Indicates whether the system is charging, charged or in standby
	Language: Tapping this option allows the user to select an available language. (Can only be altered by your Distributor)
	Load: Allows the user to load specific user-defined treatment setting. (Only available in **USER3**)
	Save: Allows the user to save a specific user-defined treatment setting. (Only available in **USER3**)
	Exit: this allows the user to Log Off or shutdown the system

4.11 Hair Removal Treatment

To help ensure a successful hair removal treatment, follow the guidelines as supplied in Clinic & Client Management and Treatment Guide.

To set up the system:

1. Ensure the 610nm (red) applicator is attached
2. Turn on the system and **Log-in**
3. Check there are enough shots left on the applicator to complete the treatment. (If the applicator shot count is below 1000 it is advisable to order a refurbishment)
4. Reset **Session**
5. Select **Hair Epilation** from the **Treatment** section
6. Select **Skin Type** of client (based on Fitzpatrick I – V scale)
7. Select **Hair Type**
8. The system now calibrates the preferred pulse settings and a safe starting energy density
9. Tap **Treat** to charge system
10. Tap **OK** to confirm treatment parameters
11. The system will now charge and be ready to fire
12. Increase or decrease energy as required to see clinical endpoint

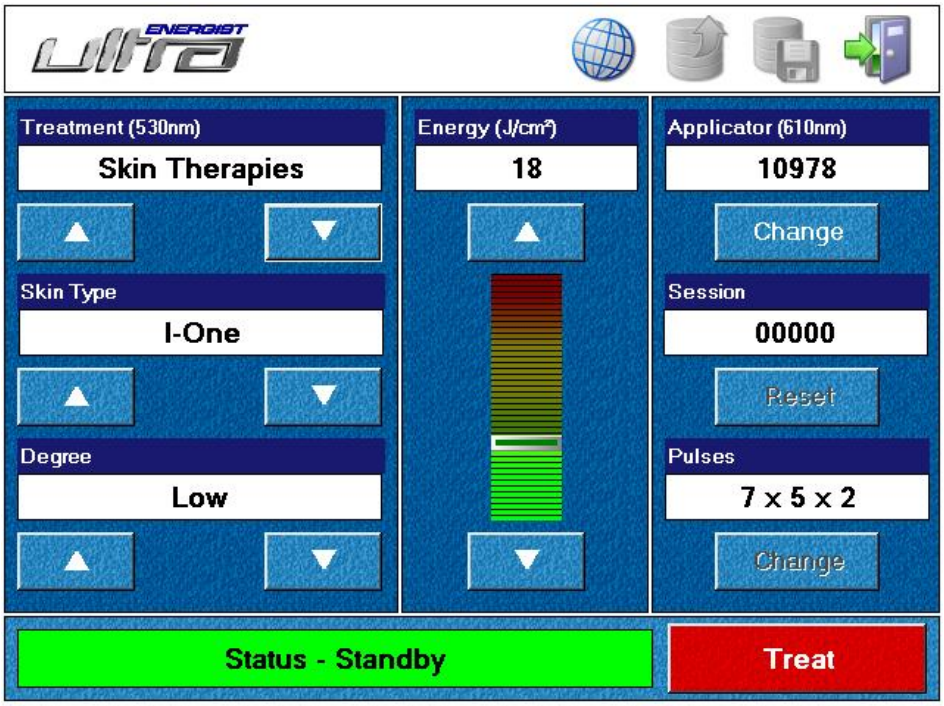


4.12 Skin Therapies Treatment

To help ensure a successful skin rejuvenation treatment, follow the guidelines as supplied in Clinic & Client Management and Treatment Guide.

To set up the system:

1. Ensure the 530 nm (yellow) applicator is attached
2. Turn on the system and **Log-in**
3. Check there are enough shots left on the applicator to complete the treatment. (If the applicator shot count is below 1000 it is advisable to order a refurbishment)
4. Reset **Session**
5. Select **Skin Therapies** from the **Treatment** section
6. Select **Skin Type** of client (based on Fitzpatrick I – V scale)
7. Select **Degree** of the severity of the sun damage
8. The system now calibrates the preferred pulse settings and a safe starting energy density
9. Tap **Treat** to charge system
10. Tap **OK** to confirm treatment parameters
11. The system will now charge and be ready to fire
12. Increase or decrease energy as required to achieve clinical endpoint

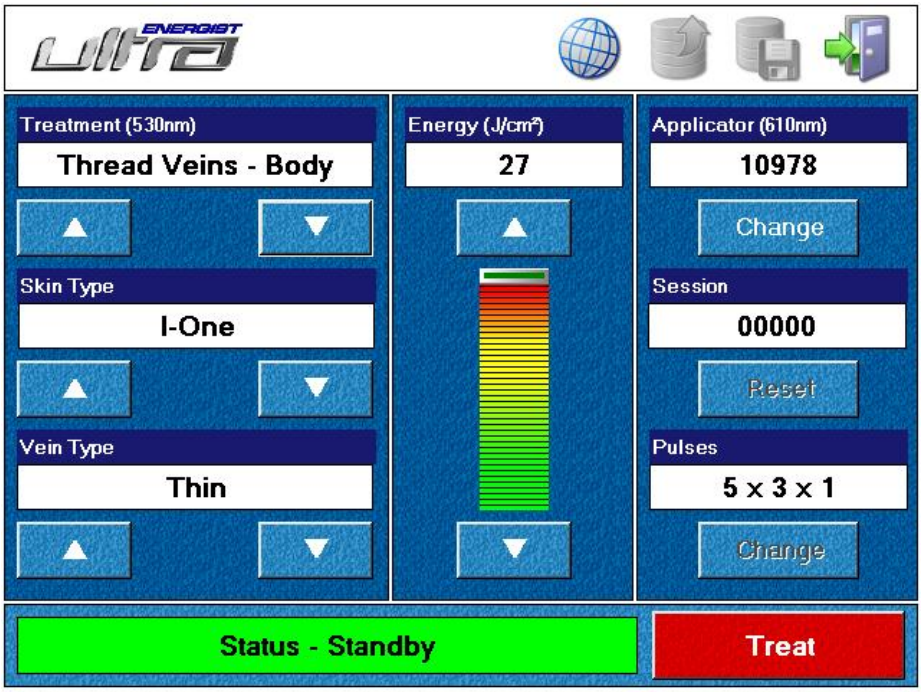


4.13 Thread Vein Treatment

To help ensure a successful thread vein treatment follow the guidelines as supplied in Clinic & Client Management and Treatment Guide.

To set up the system:

1. Ensure the 530 nm applicator is attached
2. Turn on the system and **Log-in**
3. Check there are enough shots left on the applicator to complete the treatment. (If the applicator shot count is below 1000 it is advisable to order a refurbishment)
4. Reset **Session**
5. Select **Thread Vein Face/Body** from the **Treatment** section
6. Select **Skin Type** of client (based on Fitzpatrick I – V scale)
7. Select **Vein Type** (Thin, Medium or Thick)
8. The system now calibrates the preferred pulse settings and a safe starting energy density
9. Tap **Treat** to charge system
10. Tap **OK** to confirm treatment parameters
11. The system will now charge and be ready to fire
12. Increase or decrease energy as required to achieve clinical endpoint



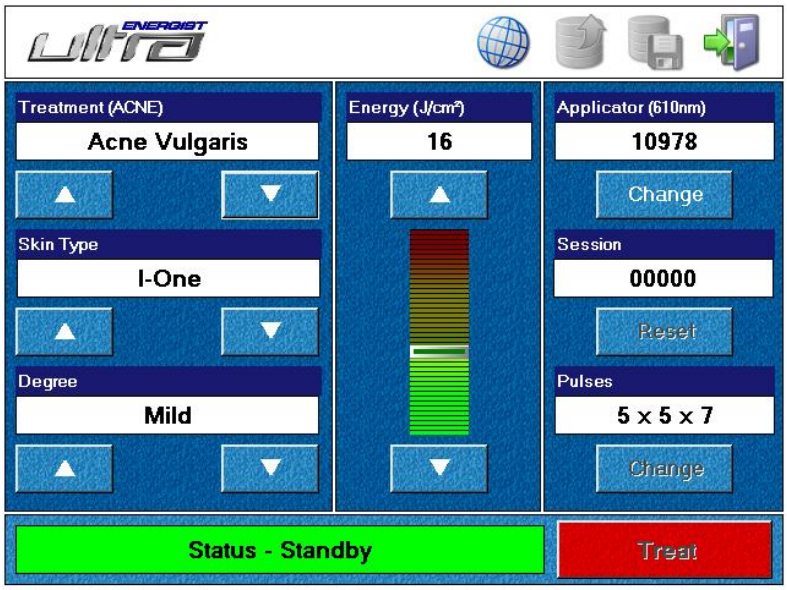
4.14 Acne Vulgaris

To help ensure a successful treatment follow the guidelines as supplied in Clinic & Client Management and Treatment Guide.

To set-up the system:

1. Ensure the Acne handpiece is attached
2. Turn on the system and **Log-in**
3. Check there are enough shots left on the applicator to complete the treatment. (If the applicator shot count is below 1000 it is advisable to order a refurbishment)
4. Reset **Session**
5. Select **Acne Vulgaris** from the **Treatment** section
6. Select **Skin Type** of client (based on Fitzpatrick I – V scale)
7. Select **Degree** of severity of the acne (Mild or Moderate)
8. The system now calibrates the preferred pulse settings and a safe starting energy density
9. Tap **Treat** to charge system
10. Tap **OK** to confirm treatment parameters
11. The system will now charge and be ready to fire
12. Increase or decrease energy as required to achieve clinical endpoint

***Note**: when the Acne applicator is attached the load and save functions are disabled.

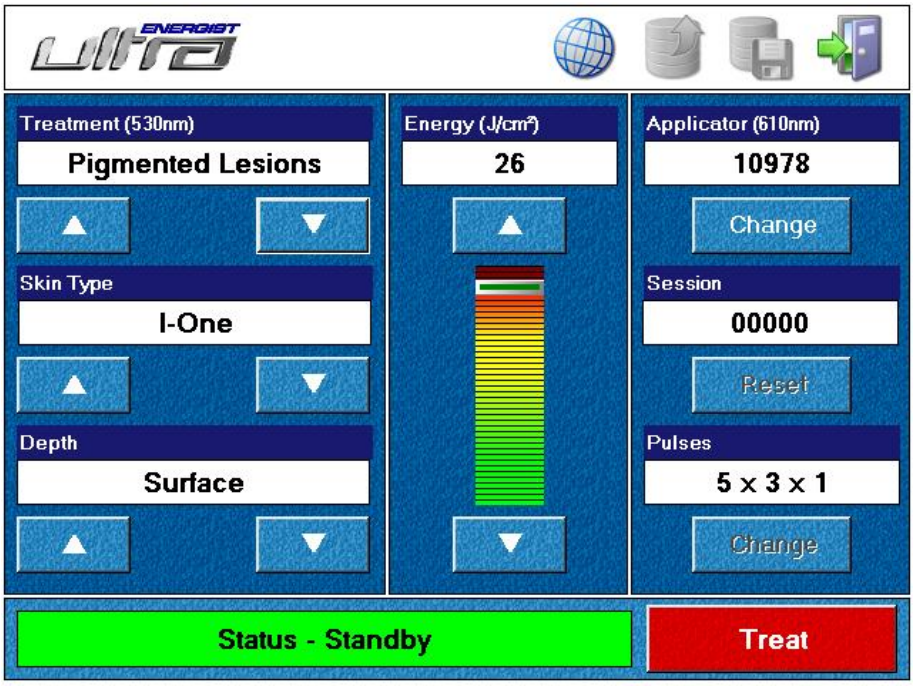


4.15 Pigmented Lesions

To help ensure a successful treatment follow the guidelines as supplied in Clinic & Client Management and Treatment Guide.

To set-up the system:

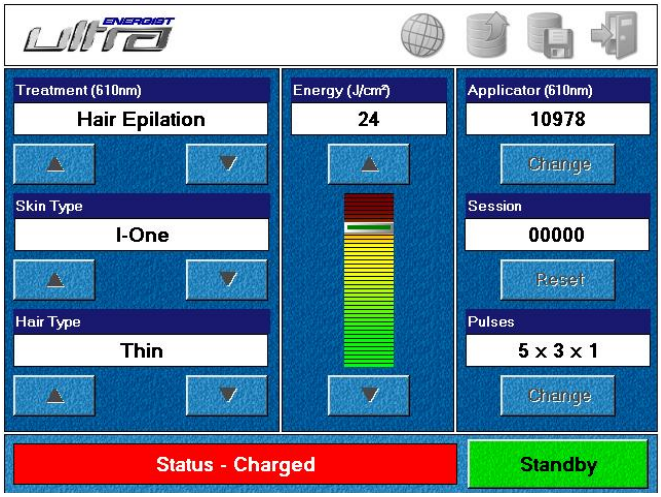
1. Ensure the 530nm (yellow) handpiece is attached
2. Turn on the system and **Log-in**
3. Check there are enough shots left on the applicator to complete the treatment. (If the applicator shot count is below 1000 it is advisable to order a refurbishment)
4. Reset **Session**
5. Select **Pigmented Lesions** from the **Treatment** section
6. Select **Skin Type** of client (based on Fitzpatrick I – V scale)
7. Select **Depth** of lesion
8. The system now calibrates the preferred pulse settings and a safe starting energy density
9. Tap **Treat** to charge system
10. Tap **OK** to confirm treatment parameters
11. The system will now charge and be ready to fire
13. Increase or decrease energy as required to achieve clinical endpoint



4.16 Increase/Decrease Energy (J/cm^2)

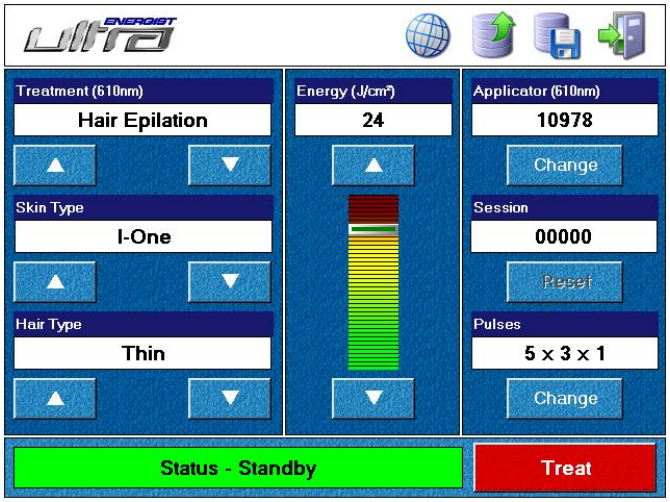
To help ensure a successful treatment follow the guidelines as supplied in Clinic & Client Management and Treatment Guide.
If you find that the starting energies are not enough to see the required clinical endpoint or are too high then:

1. While system is charged



2. Ensure system is placed back into standby mode by tapping Standby:

3. The system will go into Standby mode



4. The energy density (or Fluence) can now be increased or decreased as desired by dragging the bar on the scale or by tapping the up down keys as show below:

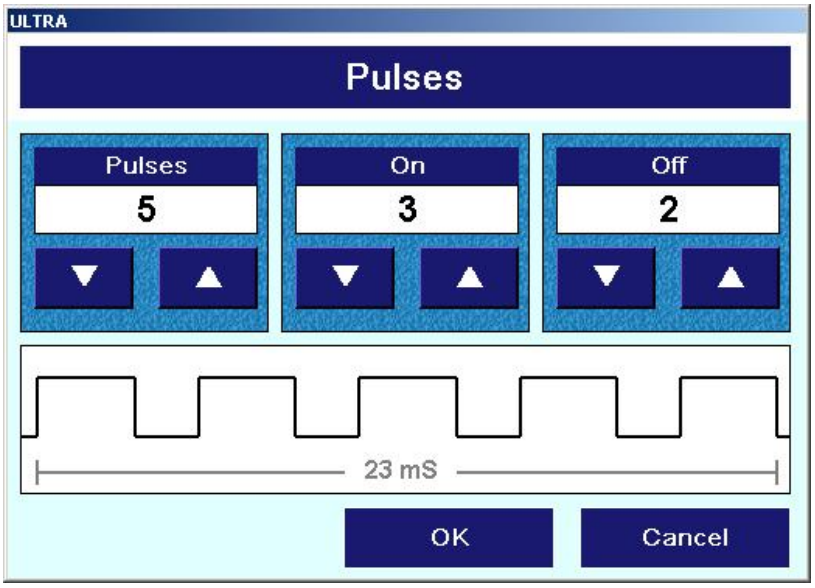
5. When you have your desired energy density setting tap treat to charge the system

4.17 Advanced Modes

Advanced mode allows the user to alter the pulse types as required while logged in as **USER3**.

Pulses

To alter the pulse settings from the pre-set values tap the **Change** button. Each pulse setting has a maximum fluence that it can output. If the starting energy is too low to see the desired clinical endpoint and the system does not allow you to increase the fluence, then this means you have reached the maximum output for that particular pulse type. To further increase the energy it is advised that you increase the number of pulses by 1, 2 or 3.



Additionally, the user may also alter the ON time for the pulse and the OFF time between pulses. This gives flexibility in providing specific treatment parameters for every client to ensure a safe and effective treatment.

Save

The user has the ability to save up to 8 preferred pulse settings. This allows for any specific pulse settings that are used on a frequent basis for their clientele. Once the preferred pulse setting has been set these can be saved by:

- Tap the **Save** icon
- Ensure the pulse settings and energy are configured as you require
- Select a Program number you wish to save the desired settings to (**PROGRAM 1**, **2**, **3, 4, 5, 6, 7 or 8**)
- Press **Yes** to save.

Load

To load the preferred program setting:

- Tap the **Load** icon
- Select the Program number where you have save the required configuration (**PROGRAM 1**, **2**, **3, 4, 5, 6, 7 or 8**)
- Press **Yes** to load the desired program
- The saved setting will now be loaded

Section 5: Troubleshooting

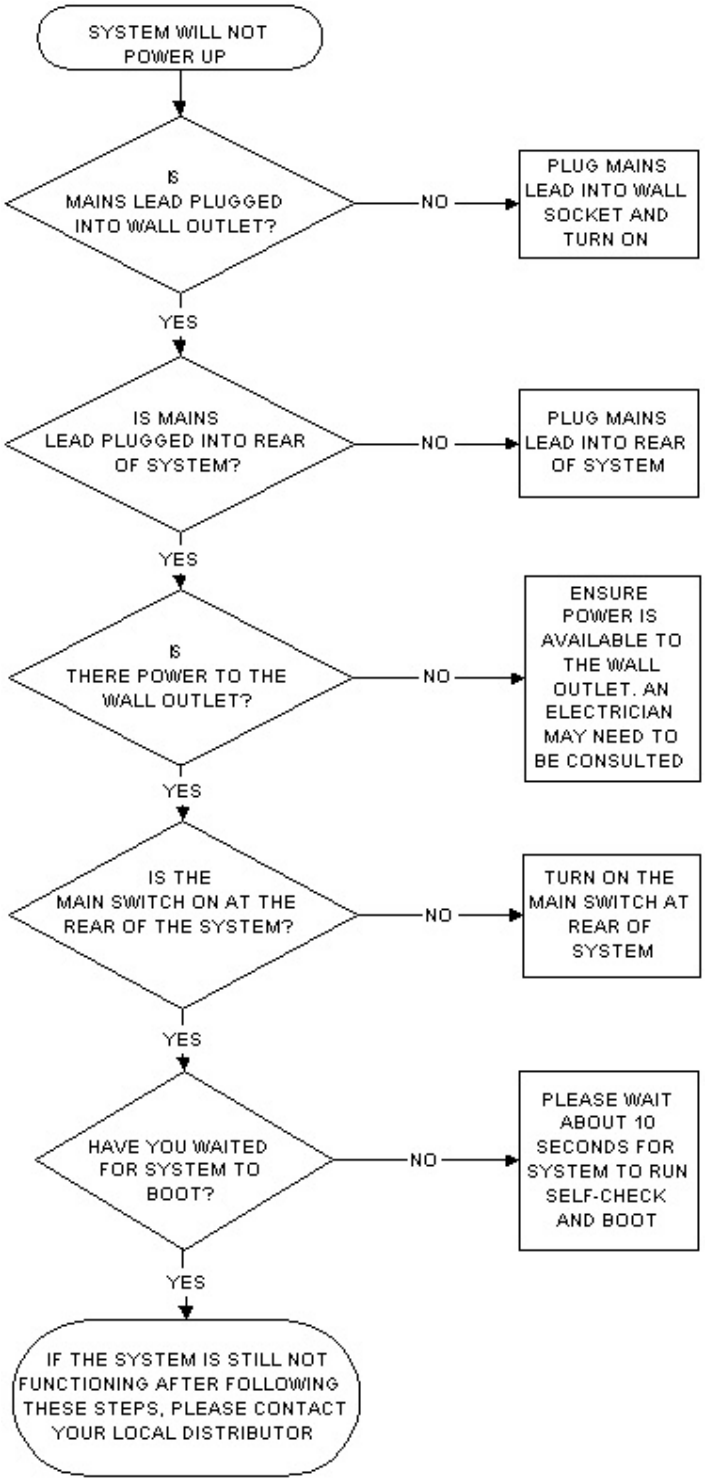
This section will help diagnose faults that may be experienced on the Energist UltraPlus system. If a fault is encountered that cannot be easily rectified, please contact your local distributor or Energist Ltd on (+44)1792 798768.

To help the engineer diagnose the system fault please have the following information available:

1. The system serial number (This is found on the rear of the system).
2. The handpiece type and its serial number (Located on the top of the handpiece).
3. How many shots left on the handpiece (Found on main screen)
4. Description of the fault.

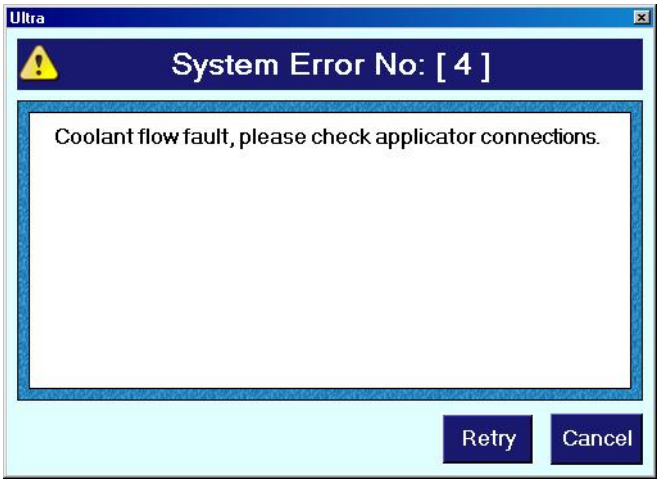
5.1 System will not power up

If the system will not power up after approximately 5 seconds please work through the following flowchart to help resolve the problem.


SYSTEM WILL NOT POWER UP
IS MAINS LEAD PLUGGED INTO WALL OUTLET?
NO
PLUG MAINS LEAD INTO WALL SOCKET AND TURN ON
YES
IS MAINS LEAD PLUGGED INTO REAR OF SYSTEM?
NO
PLUG MAINS LEAD INTO REAR OF SYSTEM
YES
IS THERE POWER TO THE WALL OUTLET?
NO
ENSURE POWER IS AVAILABLE TO THE WALL OUTLET. AN ELECTRICIAN MAY NEED TO BE CONSULTED
YES
IS THE MAIN SWITCH ON AT THE REAR OF THE SYSTEM?
NO
TURN ON THE MAIN SWITCH AT REAR OF SYSTEM
YES
HAVE YOU WAITED FOR SYSTEM TO BOOT?
NO
PLEASE WAIT ABOUT 10 SECONDS FOR SYSTEM TO RUN SELF-CHECK AND BOOT
YES
IF THE SYSTEM IS STILL NOT FUNCTIONING AFTER FOLLOWING THESE STEPS, PLEASE CONTACT YOUR LOCAL DISTRIBUTOR

5.2 Error Messages

The following is a list of error messages that may be encountered whilst using the Energist UltraPlus system. These are displayed on the screen using standard Windows dialog boxes. Each error message will appear in the same format as below:



The following list explains the error and what action is necessary. Additionally, the system will give an audible indication of which error has occurred. This will take the form of a series of beeps, the number of beeps indicates the number of the associated fault.

Message: "1 – HV Summary Fault"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "2 – Charge Fault"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "3 – Coolant Over Temperature"
Action: Leave the system on but **do not use** and allow to cool for about 30 minutes and restart. If the fault persists, call your distributor.

Message: "4 – Coolant Flow Fault, Please Check Applicator Connections"
Action: Switch off the system. Check connectors are properly inserted. Restart system. If the fault persists, call your distributor.

Message: "5 – Coolant Level Low"
Action: Switch off the system. Restart system. If the fault persists, call your distributor.

Message: "6 – Lamp Simmer Fault"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "7 – Applicator Connection Fault"
Action: Switch off the system. Check connectors are properly inserted. Restart system. If the fault persists, call your distributor.

Message: "8 – Applicator Has Expired. Do you wish to change applicator?"
Action: Tap Yes to attach a new applicator. Call your distributor to arrange a refurbishment of your applicator.

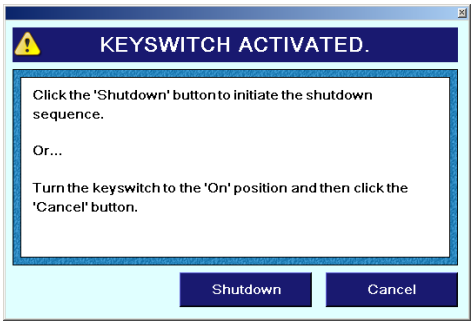
Message: "9 – Applicator Encryption Fault"
Action: Switch off the system. Check connectors are properly inserted. Restart system. If the fault persists, replace with a different Energist applicator. If this does not work call your distributor.

Message: "10 – Serial Communications Fault"
Action: Switch off the system. Check connectors are properly inserted. Restart system. If the fault persists, replace with a different Energist applicator. If this does not work call your distributor.

Message: "11 – Unknown Applicator Type. Do you wish to change applicator?"
Action: Tap Yes to change applicator. Check connectors are properly inserted. If the fault persists, replace with a different Energist applicator. If this does not work call your distributor.

Message: "12 – Control System Communications Fault"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message:


KEYSWITCH ACTIVATED.
Click the 'Shutdown' button to initiate the shutdown sequence.
Or...
Turn the keyswitch to the 'On' position and then click the 'Cancel' button.
Shutdown
Cancel

Action: Switch off the system, return Key to "On" position and restart. If the fault persists, call your distributor.

Message: "14 – Control System Invalid Checksum"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "15 – Emergency Stop Activated"
Action: Release emergency stop button by rotating the button in the direction of the arrows to release. If fault persists, call your distributor.

Message: "16 – Please Release Trigger Button"
Action: Release trigger button and re-try. Attach a different applicator and restart system. If the fault persists, contact your distributor.

Message: "17 – Invalid ADC Please Consult Dealer"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "18 – Applicator Read Count Fault"
Action: Switch off the system and restart. If the fault persists, try the following. Switch off the system and attach a different applicator and restart system. If the fault persists, call your distributor.

Message: "19 – Applicator Decrement Count Fault"
Action: Switch off the system and restart. If the fault persists, try the following. Switch off the system and attach a different applicator and restart system. If the fault persists, call your distributor.

Message: "20 – Applicator Count Check Fault"
Action: Switch off the system and restart. If the fault persists, try the following. Switch off the system and attach a different applicator and restart system. If the fault persists, call your distributor.

Message: "21 – Unable to open config file"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "22 – Unable to open Control System comm port "
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "23 – Unable to open Counter System comm port "
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "24 – Invalid Registry "
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "25 – System has Expired, Please Enter Expiry Details"
Action: Switch off the system and restart. If the message persists, call your distributor.

Message: "26 – Self Test : Charge Fault Detected, Please Reset Machine"
Action: Switch off the system and restart. If the fault persists, call your distributor.

Message: "27 – Self Test : Bleed Enabled Fault Detected, Please Reset Machine"
Action: Switch off the system and restart. If the fault persists, call your

	distributor.
Message:	"28 – Self Test : Discharge Fault Detected, Please Reset Machine"
Action:	Switch off the system and restart. If the fault persists, call your distributor.
Message:	"29 – Self Test : Flow Fault Detected, Please Reset Machine"
Action:	Switch off the system and restart. If the fault persists, call your distributor.
Message:	"Unknown Fault" or "Unknown Fatal Error"
Action:	Switch off the system and restart. If the fault persists, call your distributor.

Section 6: Introduction to Hair Reduction

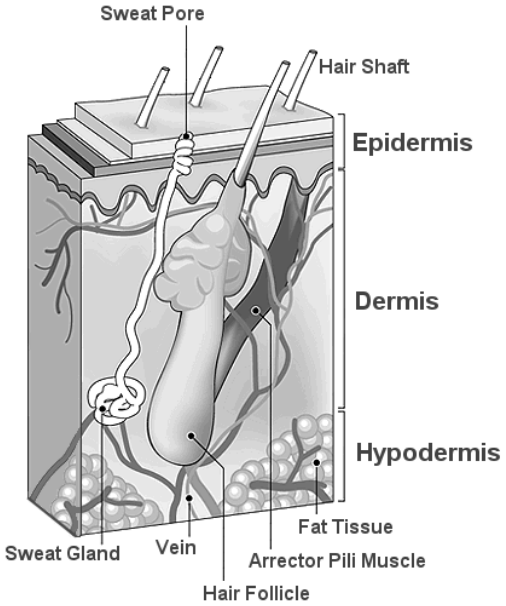
6.1 Introduction

The Energist UltraPlus system has the capability of effective, permanent reduction of hair utilising a technique known as Selective Photothermolysis, or more simply, selective heating through the absorption of light.

This guide provides the Operator with the necessary introduction to the physiology of hair growth and removal, followed by an explanation as to how the Energist UltraPlus system can achieve good results on Clients. Key to performing successful treatment is a clear understanding of each Client's skin type and careful selection of the most appropriate system setting to achieve the desired results. Results may vary from Client to Client due to many interrelated physiological factors, so Operators need to be capable of working closely with Clients in order to achieve desired results. The most common system settings that have been shown to produce effective treatments on a repeatable basis are presented in this guide together with the recommended treatment process and the results that can be expected by the Client. From time-to-time these recommended settings are updated as new treatment information becomes available.

6.2 Hair Structure

The hair is composed of a protein called keratin. The hair itself is arranged in three layers, an outer cuticle, middle cortex and central medulla. If the hair is coloured it is due to the presence of pigments- either eumelanin (black or brown) or pheomelanin (red or yellow). If these pigments are lacking the hair is white. Canites is the term given to grey hair. Hair grows from a follicle, see diagram below:



The walls of the follicle form the outer root sheath of the hair and the lower part of the follicle widens out to form the hair bulb that contains the germinal matrix, the source of hair growth. Dermal tissue projects into the follicle base to form the dermal papilla, and this has a network of capillary blood vessels to supply oxygen, energy and the amino acids needed for growth. Melanocytes are present in the upper part of the papilla, producing pigment granules that are distributed throughout the cortex.

The dermal papilla has always been accepted as the central growth area for each hair, and its removal has frequently been the sole aim of hair removal systems. However, more recently a second structure, the bulge, has been identified as a further source of growth cells, which can restart growth from a follicle even after the destruction of the papilla.

In the follicle the hair is surrounded by an inner root sheath that has three layers. Henley's layer is one cell thick and lies to the outer root sheath. Huxley's layer is two or three cells thick and is in the middle of the sheath. The cuticle of this inner root sheath interlocks with the cuticle of the hair. Both the hair and the inner root sheath grow at the same rate, but the inner root sheath breaks down about two-thirds of the way up the follicle, so only the hair emerges past the skin surface. Uncut hairs have a pointed tip.

6.3 Hair Growth Cycle

Hair growth varies greatly between individuals and the specific area of the body. Scalp hair, as example, grows an average of 2.5mm weekly. Leg hair, by contrast, grows at about half that rate.

The life cycle of hair follicles, that is, the repeating cycle of growth and rest phases, affects overall hair production. No new hair follicles are produced after birth with the appearance (and disappearance) of hair being the result of changing ratios in the growth/rest cycle. This life cycle is distinguished as three separate stages:

The cycle of life for each follicle begins with the anagen phase, which is the reawakening of the follicle's growth stage where a newly formed hair begins to

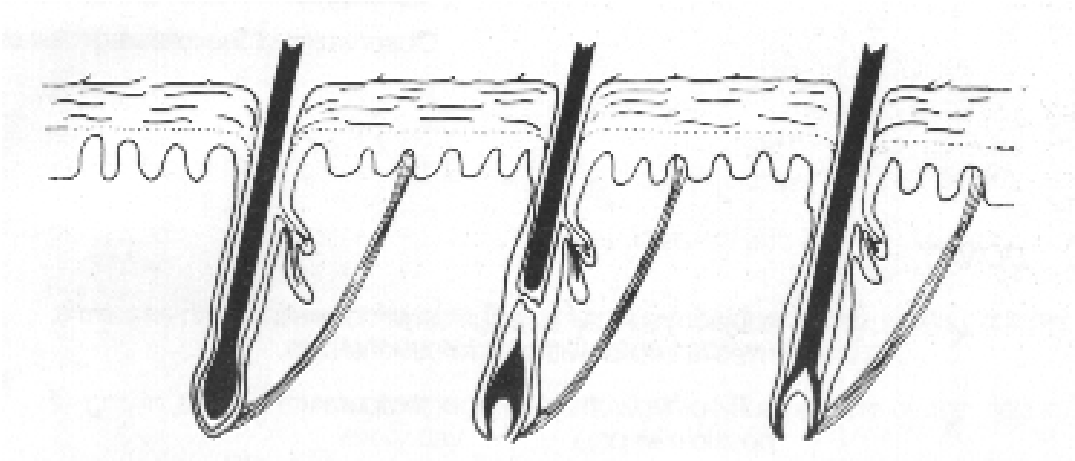
grow. This growth phase continues for a time lasting for as little as several weeks (like the moustache area) or lasting as long as several years (like the scalp area). Depending on the area of the body, gender, hormonal and other factors, growth lasts for varying lengths of time.

Ultimately, the level of growth begins to slow and the second stage of slowing or arrested growth occurs, which is known as the catagen phase. This slowing continues into the third and final phase or period of inactivity/rest. On average (for body areas) 1% of the follicles are in the catagen stage.

Finally during the third stage, the resting or telogen phase, the hair has separated from the papilla and is no longer provided with nourishment. At this point, no more new hair cells are formed and the inactive hair remains in place only by a thin strand of epidermal cells. By the end of the telogen phase, the hair shaft is now only held in place mechanically, and can be shed by brushing or combing. The hair shaft remaining in place at the end of its growth cycle is called a club hair and it is not uncommon for a club hair to remain in place while a newly formed anagen hair is beginning to emerge, which ultimately forces the club hair to be shed. On average 29% of the follicles are in the telogen stage.

Whether the club hair is shed or not, the hair follicle will once again become active and begin to grow a new anagen hair. This process of growth and rest continues throughout our lifetime. In humans, follicle activity is generally scattered between all phases of the life cycle whilst other mammals have a more orderly growth pattern, which shows as noticeable periods of hair growth and shedding.

Generally, a follicle cannot be properly treated (and thereby destroyed) during its resting phase, and since up to half the hairs could be in the resting phase at any particular time, it is clear that effective treatment of all hairs will take some time.



Resting Phase	**Transition Phase**	**Growth Phase**
(2 to 4 months)	(2 weeks)	(2 to 6 years)

6.4 Hair Growth Data

The following table contains hair growth data for a range of body areas. This should help the Clinic and Client understand the need for multiple treatments and the requirement for spacing between each treatment in order to ensure maximum efficacy. (Data acquired from numerous sources)

Body Region	Telogen Hair %	Anagen Hair %	Telogen Duration	Follicle Density, cm^2	Depth of Follicle, mm
Scalp	15	85	16 weeks	350	3.0 – 5.0
Beard	30	70	10 weeks	500	2.0 – 4.0
Upper Lip	35	65	6 weeks	500	1.0 – 2.5
Breasts	70	30	12 weeks	65	3.0 – 4.5
Trunk	70	25	14 weeks	75	2.0 – 4.5
Pubic Area	70	30	12 weeks	70	3.5 – 4.5
Arms	80	20	18 weeks	80	2.0 – 4.5
Legs/Thighs	80	20	24 weeks	60	2.5 – 4.0

For instance, an area with a large amount of hair in the anagen stage would be expected to require fewer treatments than an area with a lower proportion of hairs in this stage. Also, the depth of the follicle in the various regions will affect the amount of time that it will take for the hair to fall out after treatment, with the longest time being for deeper rooted hair.

There is evidence that injury in humans will promote growth and induce the anagen phase if the hair follicles are in telogen. Stimulation can come from cuts, scrapes, heat including sun burn and some forms of skin irritation.

6.5 How does VPL™ WORK?

The technical term for the VPL™ process is selective photothermolysis or more simply, selectively heating through absorption of light. The applied light is absorbed by the melanin, the chromophore that gives hair its colour, in the hair with the result that the hair is heated up. This heat is transferred by the process of conduction to adjacent cells, including those of the papilla and the bulge. Provided light of sufficient intensity and of selected wavelength (i.e. colour) is applied to the area the resultant temperature rise will be sufficient to cause the surrounding cells to die. Destroying the cells prevents the follicle from producing further hair growth, i.e. effectively removing the hair growing potential of the follicle. Optimum results are obtained when the hair colour is significantly darker than the skin, with blond hair and dark skin being the most difficult to treat.

The Energist UltraPlus system when used with the Depilation Applicator produces Variable Pulsed Light of wavelengths from 610nm to 950nm. Using filtered light from this region of the spectrum will ensure that energy passes into the melanin of the hair without causing damage to the skin or blood vessels. The objective in preferentially heating the hair is to achieve a

temperature of 70^{O}C for at least 1ms, which will be sufficient to destroy the follicle and the associated germ cells.

6.6 Effect of melanin in the skin

The melanin contained in the skin also acts as a partial absorber of the applied light, which means that there will also be some heating of the tissue surrounding the follicle. The heating of this tissue ideally should be kept to a minimum, particularly in Clients with darker skin.

There are two adverse considerations when treating Clients with significant amounts of melanin in their skin (i.e. dark skinned). Firstly, the energy settings will need to be reduced in order to minimise unwanted heating of the skin, thus reducing the efficacy of the treatment, and secondly, the melanin in the skin, by absorbing some of the light, will reduce the energy available to the hair shaft below.

However, Clients with darker skin can be successfully treated provided their hair is darker than their skin. Clients with a sun tan should not be treated until sufficient time has elapsed for the tan to become minimal.

6.7 Definitions of hair & skin types

The Energist UltraPlus system is designed to be very flexible in its operation, thereby allowing safe treatments to all Clients from Operators with only a basic knowledge of skin and hair types. Operators do, however, need to understand the parameters that define skin type, pigmentation and hair type.

Skin type (Based on the Fitzpatrick Scale)

Type I (1) – Always burn, never tan

Type II (2) – Sometimes burn, then tan

Type III (3) – Always tan, rarely burn, light Mediterranean

Type IV (4) – Dark Mediterranean, light Asian

Type V (5) – Dark Asian

Type VI (6) – Afro-Caribbean

Hair type

Hair type is relative to the area being considered. Normal hair in one area may be considered to be thin in another, e.g. Upper lip compared to bikini line. Therefore the operator should be careful to take the area into consideration. If a number of hair types occur in one area, the hair type of the darker hairs should be chosen to ensure that the most apparent hairs are removed.

Once the Client's skin type and hair type have been determined, the energy output of the System can be set, ensuring that the Hair Depilation Applicator (610nm) is connected. Whilst the Energist UltraPlus system is capable of a wide range of pulse and pulse delay settings, deviating from the following recommended settings should only be carried out by an experienced Operator and with the consent of the Client.

6.8 Treatment Procedure

The treatment area should be free from cosmetic make-up with the hairs slightly protruding above the skin. Cooled gel is then applied to the area in order to provide the required optical coupling and to also maintain cooling on the skin being treated. On large treatment areas the coupling gel should be applied in small sections at a time. This will ensure there is minimal mess, the gel stays cool and it is easier to see where treatment has been undertaken.

Using a clean applicator, firm contact pressure is maintained between the glass coupling block and the treatment area. The contact pressure should be such that if the applicator were removed the skin underneath would appear paler than the surrounding skin, thus indicating that the blood had been forced out from the area under the glass. Treatment should be conducted with each pulse overlapping the previous by about 1mm.

Temporarily restricting the blood flow to the treatment area has two beneficial effects. Firstly, since blood would have the tendency to scatter the light we can reduce this effect and ensure that the maximum energy reaches the hair shaft, and secondly reducing the flow of blood will desensitise the nerves in the treatment area, thereby reducing any Client discomfort during treatment.

After firing the first treatment pulse the area treated should be left for a short period and then checked for reddening, at this point the operator should also ensure that the Client is comfortable with the procedure and little discomfort is present.

Ideally, a small amount of reddening should be seen, particularly around the hair shaft as this indicates successful treatment. If reddening is not evident then the energy setting can be raised using the Fluence buttons provided the instructions given above are followed. Once reddening is evident and provided the Client is feeling minimal pain or discomfort, treatment can continue at this setting.

6.9 Contraindications to treatment

It is not recommended that treatment be carried out on Clients suffering from the following:

- Pregnancy
- Epilepsy
- History of light sensitive rashes
- Recent sun tan
- Undertaking treatment involving contra-indicated medication

More information on criteria for safe treatment is included in the consultation forms supplied.

6.10 Test Patches

All operators are advised to complete small test patches, which must always be carried out on the intended final treatment area. For example, a test patch should not be carried on the arm if the intended treatment site is the upper lip

since the results from the test patch will not be relevant. Test patches must always be carried out on darker skinned Clients (Type 3 and above) since there is a possibility of hypo/hyper pigmentation (a change in the colouring of the treated area), or in cases where there is any doubt about the efficacy of the treatment.

6.11 Number of shots for each treatment area

The following tables can be used as an approximate guide as to the number of shots required for treating different areas of the body. The exact requirement will vary between Clients.

For Women

Area	Range	Average
Upper Lip	5-9	6
Chin	8-15	10
Jaw Line	15-25	20
Neck	18-25	20
Centre Brow	2-3	2
Cheeks	14-20	18
Under Arms	15-30	22
Bikini	40-80	50
Half Arms	45-90	60
Whole Arms	90-180	120
Nipples	1-10	8
Chest	5-40	20
Stomach	10-40	20
Lower Legs	350-550	450
Upper Legs	400-650	550
Buttocks	40-100	80
Hands / Feet	6-15	10

For Men

Area	Range	Average
Upper Cheeks	10-20	14
Nose	2-5	3
Full Beard	60-100	80
Front Neck	20-40	30
Back Neck	20-40	30
Shoulders	50-120	70
Lower Back	70-100	80
Feet / Hands	10-30	20
Buttocks	80-200	150
Chest	100-250	200
Stomach	30-80	60
Lower Arms	80-200	150
Upper Arms	150-350	300
Upper Legs	400-750	650
Lower Legs	300-600	500
Upper Back	300-500	450
Full Back	400-750	650

6.12 Number of treatment sessions required

Generally, between four to six treatment sessions are required, although it depends upon the area being treated. The aim of each treatment is to reduce the hair density successively to a level that is satisfactory to the client.

The number of treatment sessions may increase when treating darker skin or lighter hairs since the percentage of hair removed during each treatment will be reduced in these instances.

6.13 Period between successive treatments

Due to the cyclical nature of hair growth, a number of treatments are required in order to ensure that treatment covers the growth stage of all follicles. **It is only during the growth stage, with the hair present**, **that the follicles can be successfully treated.**

It is recommended that each treatment be performed once when the next phase of hair has grown through, this time period varies depending on the area of the body and on the individual. For example, the hair on the upper lip has a growth cycle of approximately 6 weeks, whereas the growth cycle for leg hair is about 24 weeks, so it may not be necessary for a Client to return for a second treatment on their legs until about 8 weeks later. Since growth cycles can vary significantly between individuals, a good indication of the period between successive treatments can be obtained from the Clients themselves. When the Client considers that they have a full re-growth of hair then it is most probably time for the next treatment.

Note: At the start of each subsequent treatment the same safety steps that are recommended for the first treatment should be completed. To ensure that subsequent treatments produce favourable results, the Client must inform the Operator if any pigmentary changes have occurred. If so then these should be assessed individually, but generally an increase in the amount of melanin in the skin would indicate that a lower energy should be used.

6.14 After Care

Immediately following the treatment session, or at regular intervals in the case of treatment of large areas, soothing gel should be applied to the treated area. Recommended gels include Aloe Vera, Tea Tree or Witch Hazel. These gels have the effect of cooling the area and generally include antiseptic properties to protect the damaged follicle against infections.

The Client should be advised to refrain from:

- using cosmetic make-up, perfumed soaps and similar products for about 24 hours following treatment. Use products developed for sensitive skin
- exposure to the sun or sunbeds should be avoided for about 4 weeks prior to treatment and about 7 days following
- hot baths & showers, saunas, steam rooms & public swimming pools for 24 hours post-treatment
- tight clothing in the area treated (including boots and tights)
- excessive exercise both indoor and outdoor for 24 hours

If the area is overtreated and small blisters, or crusting, is evident ensure the client takes greater care. Advise them not to pick at these as this may increase the risk of superficial scarring and to use preparations which have good antiseptic properties.

6.15 What to expect following treatment

The immediate after effect is that the treated area should become slightly red, particularly around the hair. Typically, this redness will disappear in a matter of a few hours (and often in just a few minutes) with the skin then returning to its normal colour. The Client should be advised that the hair will still be in place in the follicle since the treatment, unlike some laser treatments.

During the next ten days or so the hair will appear to continue growing, albeit more slowly than before. What actually is happening is that the hair is no longer supported by the follicle but is being pushed out by the growth of the epidermis which is still in close contact with the hair shaft. If left alone, the treated hairs will fall out naturally after a period of between one and three weeks, dependent on the depth of the hair root.

If the Client does not want to allow the hairs to fall out naturally, then they can be removed manually (e.g. by tweezing) after about 7 days. Prior to this time the hair is acting as an effective barrier to infection of the inflamed follicle, and so they should not be removed.

Section 7: Introduction to Skin Therapies

7.1 Introduction

The concept of rejuvenation of aged and sun damaged skin is currently receiving considerable interest within the professional beauty industry and the general public. There exists today a rapidly growing demand for safe, simple techniques for improving skin textures, colour, pore size, broken blood vessels and wrinkles. The term Skin Rejuvenation applies to any form of procedure that improves the texture and look of the skin, whereas Photorejuvenation means the use of a light-based therapy to induce these improvements.

Current treatments available for skin rejuvenation include:

- Cosmeceuticals: hydrate the skin and induce minor surface changes
- Dermabrasion: layers of skin are actually 'sanded away'
- Chemical peel: uses acid solution to burn away layers of skin
- Non-Ablative Lasers: good results can be obtained, but limited to what can be treated. Expensive equipment and procedures
- Laser Resurfacing: whilst providing the best results, there are significant side-effects associated with this procedure

IPL™ skin therapy treatment is an FDA approved process that has many advantages over other treatment modalities as it effectively treats a combination of changes in the skin, from the signs of ageing and sun damage to thread veins, pigmentary abnormalities and cosmetic imperfections. In addition, VPL™ treatment is known to reduce pore size and leave a smooth revitalised appearance to the skin as the light energy stimulates an increase in the production of new collagen.

It is clear that there is considerable demand for this new generation of non-ablative treatment that has shown to give dramatic improvement for the visible signs of ageing and photo-damage with low risk and, perhaps most importantly, no Client 'downtime'. A number of independent clinical studies have been undertaken with the findings confirming the efficacy of IPL treatment. Additional studies are currently underway across the world to establish in more detail how best to utilise the advantages of this new non-invasive method of reversing photo ageing.

This section provides the Operator with the necessary introduction to skin rejuvenation, followed by an explanation as to how the Energist UltraPlus system can achieve good results on a range of skin types and conditions. Key to performing a successful and safe treatment is having a clear understanding of each Client's needs, their skin type and then the careful selection of the most appropriate system settings to achieve the desired result. Results will vary from Client to Client due to many inter-related physiological factors, and so Operators need to be capable of working closely with Clients in order to achieve good results.

This guide provides information on the various treatment processes, including the range of system settings available to the Operator. From time-to-time recommended system settings are updated as new information becomes available from on-going Clinical Research.

7.2 Photo-Damaged Skin

Photo-damaged skin occurs as the result of excessive exposure to ultraviolet (UV) light, which induces epidermal and dermal changes. Skin affected in this way is characterised by thinning of the epidermis and dermis, coarse skin texture, wrinkling, telangiectasias and changes in pigmentation.

The overall appearance of photo-damaged or sun exposed skin relates to the resultant UV damage of structural components such as collagen and elastin fibres. Appearance, however, is also affected by genetic factors, intrinsic factors, disease process such as rosacea, and the overall loss of cutaneous elasticity associated with age. More people now have extended periods of sun exposure and, coupled with the thinning of the ozone layer and other factors, this has resulted in visible signs of ageing, damage and disease evident in ever-younger people. People in their twenties and thirties are now witnessing solar elastosis, telangiectasias, solar lentigines and rhytide formation.

Treatment for photo-damaged skin involves more than simply addressing wrinkles, which will produce limited results in one aspect only. Rather, treating each of the different components of photo-damaged skin will result in a more dramatic visible improvement.

7.3 Acne Vulgaris

Early inflammatory acne lesions are characterised by the pilosebaceous duct becoming infiltrated by Propionibacterium, a common cutaneous commensal. The improvement of acne lesions in individuals after exposure to sunlight is explained by the photosensitivity of the P. acnes bacterium which is a porphyrin-containing organism that is killed by exposure to specific wavelengths of light following the release of singlet oxygen species.

With the highest sensitivity at 320nm (Near UV) with a secondary maximum at 415nm (blue). This corresponds to the absorption maximum of the porphyrins produced by P.acnes., which are likely to acts as chromophores. Therefore, irradiation of P.acnes with light in the blue region could result in photodynamic stimulation of porphyrins stored in the bacteria, singlet oxygen production and bacteria killing. Clinical research has established the photosensitivity of protoporphyrin. The absorption characteristics for protoporphyrin IX (PpIX) include significant absorption peaks at 508nm, 534nm, 578nm and 630nm. As blue light has been calculated to penetrate to less than 0.25mm in depth, thus is unlikely to activate the porphyrins in the acne lesion. Consequently, longer wavelengths with a deeper penetration will be beneficial in the treatment of acne by exciting the porphyrins situated deeper within the acne lesion. Therefore, the more deeply penetrating longer wavelengths of broadband light will achieve greater penetration depth thus reaching acne bacteria in the pilosebaceous duct.

It has also been hypothesised that light absorption by target cells also induces cell membrane permeability resulting in a proton influx and dissipation of pH gradients across the cell membrane. This effect, coupled with that of the singlet oxygen species induced by PpIX provides a micro-environment unsuitable for P. acnes.

7.4 Laser Techniques for Skin Rejuvenation

Up until recently, the 'in vogue' techniques for reducing or eliminating facial rhytides or wrinkles included various topical agents such as glycolic acid, retinoids, ascorbic acid, a variety of chemical peeling agents, dermabrasion, and laser skin resurfacing. Of these techniques the most effective methods for improving photo-damaged skin were invasive, which had major disadvantages of requiring a significant recovery period following procedures such as laser skin resurfacing. In addition, scarring has become more common place with each of the invasive procedures including laser resurfacing.

Laser Resurfacing works on the principle of causing a controlled thermal burn, which results in the removal (or ablation) of the upper layers of skin. The associated thermal damage increases the rate at which new collagen is produced and thus improving the appearance of wrinkles. The process is not about resurfacing the skin with new tissue, but rather is about allowing a controlled scar to evolve that shrinks over time, a process called contracture. This controlled contracture is what gives the appearance of reduced wrinkling of the skin. Laser Resurfacing involves the use of general (or sometimes local) anaesthesia, 2-3 days stay in a hospital and constant bandage changes for 3-4 weeks post-procedure. Research has shown that 80% of potential patients withdraw due to the high risk of side effects.

The thermal effects on tissue are both time and temperature dependent, as shown below:

- From 42 to 45 deg.C: reversible protein and membrane changes occur
- From 50 to 85 deg.C: denaturing the structure of cellular proteins
- From 75 to 80 deg.C: irreversible collagen coagulation takes place
- Above 100 deg.C: vaporization of tissue water occurs resulting in ablation and carbonization.

Whilst good results can be obtained, these are often tempered by the presence of a number of complications. As the skin has been damaged, its natural barrier protection to infection is significantly reduced, so great care must be taken until the area has healed completely. Postoperative hyperpigmentation occurs after almost any cutaneous laser procedure, regardless of type. It is particularly common in patients with darker skin and whilst in the majority of cases it will only last for three or four months, it can be permanent. Postoperative hypopigmentation is also possible, particularly after multiple treatments and is again common in darker skin types. Delayed permanent hypopigmentation is a well recognised complication particularly to CO_2 laser skin resurfacing as is persistent Erythema.

Blister formation (vesiculation) is caused by thermal damage induced by the laser when excessive fluences are used or the absorption of laser energy is increased due to the presence of an epidermal chromophore (e.g. melanin in a tan). Without appropriate postoperative care undesirable 'crusting' is also inevitable following laser resurfacing. Perhaps the most serious of laser complication is scarring. Cutaneous laser resurfacing carries the greatest risk of scarring because of the intended destruction of dermal tissue as well as the increased risk of infection in the de-epithelialized skin. Factors affecting scarring include the number of treatment passes and the energy used and it is worth noting that this complication occurs even when the treatment is performed by the most experienced surgeon or physician.

7.5 Classifications

Evaluation of facial skin pigmentation prior to treatment is necessary if successful results are to be obtained. Pigment can be inherited ethnically or acquired, such as in melasma or Addison disease. A higher degree of normal pigmentation increases the risk of hyperpigmentation and hypopigmentation following treatment. Hormonal changes during pregnancy can also vary the amount of pigmentation. The Fitzpatrick description of skin types, and known as the Fitzpatrick Skin Type Classification, is used throughout this guide, viz:-

Type I	Always burn, never tan
Type II	Sometimes burn, then tan
Type III	Always tan, rarely burn, light Mediterranean
Type IV	Rarely burn, Dark Mediterranean, light Asian
Type V	Very rarely burn, Dark Asian
Type VI	Never burn, Afro-Caribbean

The higher the type and the degree of pigmentation, the greater the risk of post inflammatory hyperpigmentation. However, Clients who have minimal pigmentation of light skin can develop prolonged post operative erythema but are less likely to develop pigmentation alterations.

The classification of rhytides is based on the work of Glogau, which uses the qualitative descriptions of minimal, moderate, advanced or severe, viz:-

Mild (age 28 – 35 years)	Little wrinkles, no keratosis, requires little or no make-up
Moderate (age 35 – 50 years)	Early wrinkling, sallow complexion with early actinic keratosis, requires little make-up
Advanced (age 50 – 60 years)	Persistent wrinkling, discolouration of the skin with telangiectasias and actinic keratosis, always wears make-up
Severe (age 65 – 70 years)	Severe wrinkling photoaging, gravitational and dynamic forces affecting skin, actinic keratosis (with or without cancer), wears make-up with poor coverage

For assessing the degree of perioral and periorbital rhytidosis, Fitzpatrick has suggested an alternative classification system as follows:

Class I:	Fine wrinkles
Class II:	Fine-to-moderately deep wrinkles and moderate number of wrinkle lines
Class III:	Fine-to-deep wrinkles, numerous wrinkle lines and redundant folds possibly present

For assessing the degree of elastosis, Fitzpatrick uses the following scoring system:

Class I (score 1 – 3):	Mild elastosis, fine textural changes with minimal skin lines
Class II (score 4 – 6):	Moderate elastosis, yellow discolouration of individual papules (papular elastosis)
Class III (score 7 – 9):	Severe elastosis, marked confluent elastosis with thickened, multipapular and yellowed skin

7.6 Treatment Process

The Energist UltraPlus system is suitable for full face, neck and chest treatment to improve redness and flushing in addition to the visible signs of sun damage and ageing. Treatments using the Energist UltraPlus include the following:

- Reduce redness and flushing
- Reverse sun damage by reducing fine wrinkles, freckles and irregular pigmentation
- Smooth skin by reducing pore size
- Treat thread veins and rosacea symptoms
- Use following chemical peeling or micro dermabrasions to improve the results of these treatments

Sun Damage Treatment

Sun damage treatment includes aspects of both pigmentation treatment and thread vein treatment (i.e. broken capillaries, liver spots, irregular pigmentation) but also includes fine lines and wrinkles. Exposure to UV light destroys skin cells thereby slowing down the growth of new skin and the production of collagen. Light energy in the wavelength range 530 to 585nm is known to have a stimulating effect on fibroblasts thereby increasing their production of collagen. The increase in blood flow to the region will also bring fresh supplies of oxygen and nutrients to the cells, which will assist in the removal of waste. By traumatising the epidermis and dermis the skin will be encouraged to go into ‘repair mode’ to reduce fine lines and wrinkles.

Acne Vulgaris Treatment

As discussed previously, there are several absorption peaks for PpIX which are covered by the output of broad-band light using the acne applicator with

wavelengths covering 415nm & 630 – 950nm (and also the 530nm – 950nm filter).

With UltraPlus VPL™ both short (and potentially harmful) UV wavelengths and longer IR wavelengths (which might cause excessive tissue heating) are filtered out and an appropriate selection of micro-pulses in a longer single pulse train ensures precisely dosed energy to target endogenous chromophores and provide optimum effectiveness in stimulating the body's own immune system response. The pulse selection is unique in that it allows for substantial cooling of the skin between each micro-pulse delivery of energy. This limits the pain associated with the treatment and subsequent side-effects.

It has also been shown that post pulsed light treatment there is a stimulation of proteins leading to the increased production of collagen Type I & III and elastin. This can assist in the improvement of skin texture and rapid healing of the acne lesions. This may in turn lead to a reduction in the scaring associated with acne.

7.7 Treatment Test Patches

Test patches are recommended prior to all treatment sessions, but are essential when treating skin type II and above. The purpose of a test patch is only to verify that permanent pigmentation changes will not take place and the client is not sensitive to the treatment. It is highly unlikely that permanent pigmentation changes will occur following a single treatment at the recommended system settings. However, repeated treatments or treatments carried out at higher energy fluencies using the manual override (i.e. "User 3") facility may induce pigmentary changes.

In order to carry out a test patch, select an area of skin that is not prominent in the area to be treated and ensure that it is hair free. Carry out one or two treatment shots at the recommended system settings of pulse parameters and energy fluency, and then observe visually the patch over the following days. If at any time during this period the treated area lightens or darkens in colour (even if this pigmentation change is temporary) then this should be regarded as an indication that hyper or hypopigmentation will occur if treatment is continued at these system settings.

In any instance of skin lightening or darkening, as described above, then further treatment at the test settings should not take place and a further test patch should be completed in a different area and at a lower energy setting. In the event that energy levels have to be reduced to a level that is so low that initial erythema does not occur then the Client should be advised that the full treatment proposed is unlikely to be effective.

7.8 Contraindications

It is not recommended that treatment be carried out on clients with the following:

- Pregnancy
- Epilepsy

- History of light sensitive rashes
- Recent sun tan
- Under taking treatment involving contra-indicated medication

More information on criteria for safe treatment is included in the consultation forms supplied.

7.9 Treatment Procedure

Read and follow all safety warnings and procedures given in this Manual, ensuring that the correct protective eyewear is being used. More information on patient consultation is supplied in the appropriate section.

a) Thoroughly clean the area to be treated, and remove all make-up using facial wipes.

b) All hair should be removed from the treatment area to avoid burning or unwanted long-term hair removal.

c) Apply cold gel to the area to be treated.

d) Set up the system to the desired treatment procedure or correct Off Delay, Pulse Type and Energy Fluency.

e) Ensure the Applicator Head is perpendicular to the treatment site and in very light contact with the skin. Do not apply pressure, as would be the case for Hair Depilation Treatment.

f) Energy levels sufficient to produce erythema are generally effective for photorejuvenation. If there is no reddening of the treated area, treatment can be repeated at higher energy levels provided all the precautions given in this guide are adhered to.

g) Remove the gel from the treated area and apply Aloe Vera to reduce any temporary discomfort (except for treatments to reduce fine lines and wrinkles). However, avoid applying any cream to the face if at all possible.

h) Advise the Client on aftercare procedures.

i) A concise record of all treatment settings and energy levels should be kept for each Client.

7.10 Number of treatment sessions required

Generally, between four to six treatment sessions are required, although it depends upon the treatment type and the area being treated.

7.11 Period between treatments

Due to the body's UltraPluserative cycle, a number of treatments are required in order to ensure that treatment has been a success. Treatments can be carried out between 3 and 4 week intervals. A review date of approximately 3 months from first treatment will give a very good indication of the results that will be obtained, however, improvements will continue over time.

Note: At the start of each subsequent treatment the same safety steps that are recommended for the first treatment should be completed. To ensure that subsequent treatments produce favourable results, the Client must inform the Operator if any pigmentary changes have occurred. If so then these should be

assessed individually, but generally an increase in the amount of melanin in the skin would indicate that a lower energy should be used.

7.12 Aftercare

If required, soothing gel may be applied to the treated area. It is recommended that topical applications used do not have anti-inflammatory properties such as Aloe Vera or Tea Tree, but which have the effect of cooling the area and possibly include antiseptic properties.

For those clients undergoing sun damage treatment they should be given 'life style' consultations, including dietary, exercise and sun bathing advice.

The Client should be advised to refrain from:

- using cosmetic make-up, perfumed soaps and similar products for about 24 hours following treatment. Use products developed for sensitive skin
- exposure to the sun or sunbeds should be avoided for about 4 weeks prior to treatment and about 14 days following
- hot baths & showers, saunas, steam rooms & public swimming pools for 24 hours post-treatment
- tight clothing in the area treated (including boots and tights)
- excessive exercise both indoor and outdoor for 24 hours
- Use of a good sunscreen for at least 5 days for facial sun damage treatments
- Smoking 2 hours pre & post treatment
- Keep well hydrated
- Use a good range of active skin products (such as Vitamin C, Vitamin A, etc)
- Avoid anti-inflammatory preparations for ± 7 days if possible (such as ibuprofen, Ibuleve, difflam, etc.)

If the area is overtreated and small blisters, or crusting, is evident ensure the client takes greater care. Advise them not to pick at these as this may increase the risk of superficial scarring and to use preparations which have good antiseptic properties.

7.12.1 What to Expect Following Treatment

The immediate after effect is that the treated area should become slightly red, which is evidence of erythema. Unlike hair removal where the hairs fall out, the changes that are induced from the treatment take time and are usually not very noticeable when viewed every day.
To ensure a successful treatment outcome there are a number of reactions that you may look for after a treatment has been undertaken. The sensation varies from client to client so be careful to note skin reactions. The following list describes the reactions that should be evident immediately after treatment.

Skin Therapies
Reactions to look for:
Slight stinging sensation for client.
Mild erythema may be present

Epidermal Pigmented Lesions

Reactions to look for:

Protect skin surrounding pigmentation with White card
Stinging or heat sensation for client.
Erythema around pigmentation should be present
Change in colour of pigmentation (speckly and darker) should be present

Vascular Lesions

Reactions to look for:

Stinging sensation for client.
Mild erythema in treated area.
Change in look of vessel immediately after treatment (may only last for 30-60 seconds)
Vessels: The vessel will change colour and may be become lighter and look blurred
Cherry spots: May go dark

Active Acne

Reactions to look for:

Slight stinging sensation for client.
Mild erythema may be evident

Section 8: Clinic & Client Management

8.1 Introduction

The Energist UltraPlus system has the capability of a range of effective cosmetic procedures utilising a technique known as Selective Photothermolysis, or more simply, selective heating through the absorption of light. Key to performing a successful treatment is a clear understanding of each Client's skin type and careful selection of the most appropriate system setting to achieve the desired results. Results may vary from Client to Client due to many interrelated physiological factors, so Operators need to be capable of working closely with Clients in order to achieve desired results.

There are numerous issues that will help in providing a successful treatment and enhanced client retention that are not related directly to the actual treatment process and outcome itself, and some of these are covered under 'First Impressions'. Some simple client management guidelines include:

- Ensure your clients feel heard
- Ensure your clients feel understood
- Ensure your clients feel respected
- Ensure your clients feel liked
- Ensure your clients feel helped
- Ensure your clients feel appreciated

The above guidelines will ensure that you build up a rapport with your client and fully understand their needs. However, in any undertaking of an elective cosmetic procedure, the preparation of the client and the quality of post-treatment care are paramount to ensuring a successful result.

Remember that success is about satisfaction, not only of the client, but also the clinic!

8.2 First Impressions

Your clinic is the window to the world, and if it doesn't give the right first impression, clients will be instantly put-off. The décor plays an important part as does well presented and courteous staff. No client would like to enter a clinic which was last decorated in the 80's, at about the same time that the magazines were placed in reception. Think about the worst reception areas and welcomes that you have encountered, and avoid those mistakes. Small details, that are often overlooked, show that you care and will care for your clients too. Your attitude – and the one you project with your appearance, and consequently your voice – says a lot about how others perceive you, and react to you. The same holds for your staff, if they fully support your business plans and believe in the treatments offered, this is projected on to your clients, who in turn will place more trust in your clinic and your staff.

Some useful points are:

- Always ensure the premises are clean and tidy

- Always ensure a prompt & courteous welcome
- Always ensure that information on treatments offered and patient information is available
- Supply appropriate reading material in the waiting area
- Ensure the availability of refreshments
- Flowers add a nice homely touch

Remember, treatments can be copied, but service and delivery is unique to each clinic!

8.3 Client's First Contact

Whether a prospective client rings through to your clinic or drops in off the street, it is important that they receive a warm and friendly greeting. This initial contact is crucial as it is here that the client needs concise information about the services you offer, while the clinic is also able to elicit information about the prospective client. Within this first exchange, the prospective client makes a decision on whether to use the clinic or undertake the procedure about which they were seeking information. This initial two-way exchange of information allows you to understand the initial client's needs but also inform them of the procedures that you offer. From this exchange you should obtain information about:

- The name of the client
- Their address
- Contact number
- What treatment(s) they are looking to undertake
- Where/How they identified your clinic

During this exchange you should offer the client:

- Unique selling point of your clinic
- Proposal to send/give information
- Invitation to arrange an appointment/consultation
- Brief explanation of the consultation process
- Directions to clinic and availability of parking
- Summary of what has been agreed

8.4 Preparing the Client

The initial consultation of any client is the most crucial aspect in any future cosmetic treatment. At this stage you must clearly determine the client's expectations and educate them about what is realistically achievable. In most cases the client will initially have unrealistic expectations. It is crucial at this stage to lower these expectations to a realistic and manageable level. This can be achieved by using photos of previous results and an explanation of how the treatment works. There are a number of questions that must be asked at this stage:

- What do you expect the procedure to accomplish?
- In which way do you think the procedure will help you?

- Can you show me what it is that bothers you?
- When do you expect the results to show?
- Did someone originally suggest this procedure to you?
- Do you know anyone who has undertaken the procedure?
- Have you seen this procedure advertised in magazines or newspaper articles?

The education process of the treatment ensures that the client is fully informed about how the treatment works and any possible side-effects. A comparison with other procedures is useful as this may help to alleviate any fears held by Clients.

If possible, it is at this stage that any unsuitable candidates should be identified and filtered out. Signs that may show a client may be unsuitable for treatment include:

- Lack of understanding of the information that is presented to them with regards to the treatment
- Refusal to listen to the information that is presented to them
- Over-identification with a specific look
- Obsessive about minor blemishes
- Negativity (i.e. has tried everything but nothing works)
- History of cosmetic treatments with various clinics
- Refusal to undertake this as a continuing maintenance program
- Alcohol or drug misuse
- Psychiatric or mental health problems

Certain conditions for exclusion criteria include:

- History of keloid scarring
- Oral acne medication in the last six months (e.g. Accutane)
- Medication for which sunlight is a contraindication (See Information on Drug Induced Photosensitivity)
- Pregnancy
- Epilepsy
- Tanned Skin
- Malignant or suspicious tissues
- History of poor wound healing
- Tattoo over treatment area

There are certain conditions that require a medical consultation prior to treatment and include:

- Hairy moles
- Diabetes
- Contraindicated medications
- Malignant or suspicious lesions
- Haemophilia
- Photosensitivity in the last six months

If at any stage you are unsure of the suitability of a client, DO NOT treat or promise treatment!

8.5 Client Management – Hair Removal

Hair removal is one of the most basic procedures to perform and will probably provide your clinic with one of the most profitable sources of income. Light based hair removal has been well tested and documented for a number of years by researchers from all over the world.

The initial stage of the hair removal process is to undertake the health history consultation and hair consultation. This will ensure that there are no underlying medical conditions which may exclude the client from treatment.

The operator must be shown the site where treatment is to be carried out and document any pre-existing scars or pigmentary inconsistencies before testing or treating.

Good clinical photographs are to be taken, using a camera with a macro facility, in the same position and same lighting to ensure parity at the review stage of the treatment. The clinical photographs are to be kept with the client's record and must be taken to ensure that:

- Clinic has a record of any existing scars or pigmentary changes
- Clients have a visual record of the density of hair prior to treatment

As clients see themselves every day they have a tendency to forget how dense the hair growth was initially, thus the photographs provide the opportunity to review a visual record of the area side by side at the end of the course of treatments.

Ensure that the client now understands the hair growth cycles and that realistically only hairs that are in the growth (Anagen) stage can be successfully treated. Again ensure that the patient's expectations are not set too high and are manageable. This is a key element to a successful treatment!

After a course of treatment has been agreed a review date must be set. This will allow the clinic to meet with the client and review the results to ascertain how the treatment is progressing. At this stage any remedial action can be undertaken and amendments to the protocol can be made. A general guideline for review would be between 10 and 14 weeks following the first treatment.

Treatment Tips:

- Ensure skin has no suntan and use of fake tanning products is avoided
- Ensure the client is well hydrated
- When treating ensure that the handpiece is perpendicular (90^{O}) to the target area
- Wax, or sugar, the area to be treated prior to treatment, the time of this depends on when short stubble appears on the client. This will help as the hairs that are starting to grow through are probably in the anagen phase and can be successfully treated.

- If there is a strong reaction immediately post treatment, cool the area with an ice pack or similar cooling product. (i.e. frozen bag of peas or cold flannel)
- If the results are negligible with the 610nm handpiece for fine, blonde or red hairs try using the 530nm handpiece. The procedure will be slightly more painful but good results may be achieved.

8.6 Client Management – Skin Therapies

Skin Rejuvenation is a term that includes a variety of treatment modalities that will help improve the texture, tone and elasticity of the skin. Photorejuvenation utilises light-based therapy to induce the improvements that are required. Typical conditions that can be treated with the 530nm Filter are included in the Skin Therapies section.

The initial stage of the skin rejuvenation process is to undertake the health history consultation and rejuvenation consultation. This will ensure that there are no underlying medical conditions which may exclude the client from treatment.

The operator must be shown the site where treatment is to be carried out and document any pre-existing scars or pigmentary inconsistencies before testing or treating.

Good clinical photographs are to be taken, using a camera with a macro facility, in the same position and same lighting to ensure parity at the review stage of the treatment. The clinical photographs are to be kept with the client's record and must be taken to ensure that:

- Clinic has a record of any existing scars or pigmentary changes
- Clients have a visual record prior to treatment

As clients see themselves every day they have a tendency to forget how their skin looked or how prominent imperfections were initially, thus photographs provide the opportunity to review a visual record of the area side by side at the end of the course of treatments.

For each specific treatment the clinic must ensure that the client fully understands the treatment process for each condition, an expected realistic result and possible side-effects. An explanation of the treatable conditions is included in the Skin Rejuvenation section.

After a course of treatment has been agreed a review date must be set. This will allow the clinic to meet with the client and review the results to ascertain how the treatment is progressing. At this stage any remedial action can be undertaken and amendments to the protocol can be made. A general guideline for review would be between 10 and 14 weeks following the first treatment.

Client management is crucial during skin rejuvenation as the results can take time to appear and improvements can continue over a lengthy period. The

changes induced may appear minor, and not the dramatic effects that they may have visualised. By reviewing pre- and post-treatment photographs there will be a more noticeable improvement for the client.

Treatment Tips:

- Ensure skin has no suntan and use of fake tanning products is avoided
- When treating ensure that the handpiece is perpendicular (90^{O}) to the target area
- Wax, sugar or pluck hairs in the area to be treated prior to treatment to avoid unwanted hair removal.
- If there is a strong reaction immediately post treatment, cool the area with an ice pack or similar cooling product. (i.e. frozen bag of peas or cold flannel)
- For any treatment that involves the stimulation of new collagen growth any use of Non Steroidal Anti-Inflammatory products should be avoided (for example, Aloe Vera Gel and Ibuprofen) for at least a week before and after treatment
- It is advisable that clients do not smoke for 2 hours before and after the treatment. This is due to cigarette smoking causing a reduction in the bodies capacity to carry oxygen and due to its vaso-constricting properties
- Ensure the client is well hydrated

8.7 Client Management – Adverse Reactions

It is very rare that severe adverse reactions occur with use of Intense Pulsed Light systems. However, it is extremely important that each clinic has a procedure to follow in the case of any such adverse incidents occurring.

Adverse reactions can range from severe burning, blistering, swelling, hives/rashes and in very severe cases anaphylaxis. Whatever the adverse reaction, it is very important that the client is attended to promptly and is properly advised.

Adverse Reaction	**Advice**
Burning/Blistering	Contact recognised first aid person Apply cold compress or cool with water Remove any constrictions/clothing on affected area Apply a dry sterile dressing to area Refer to Accident/Emergency unit in local hospital Fill in an adverse incident report including all details Inform manufacturer
Swelling	Contact recognised first aid person Apply cold compress or cool with water Remove any constrictions Refer to Accident/Emergency unit in local hospital Fill in an adverse incident report including all details Inform manufacturer
Rashes	Contact recognised first aid person Apply cold compress or cool with water

	Remove any constrictions Apply a dry sterile dressing Refer to Accident/Emergency unit in local hospital Fill in an adverse incident report including all details Inform manufacturer
Anaphylaxis	Contact recognised first aid person Seek Emergency Medical Advice immediately Alleviate any breathing difficulties Fill in an adverse incident report including all details Inform manufacturer

Section 9: Treatment Setting Guidelines

9.1 Introduction

The Energist UltraPlus system is designed to be very flexible in its operation, thereby allowing safe treatments to all clients from operators qualified and trained to carry out hair removal or skin therapy treatments. The recommended pulse parameters and energy settings given in the following tables are given for guidance only, since the Operator is required to determine the most appropriate treatment settings based on a full consultation, together with the appropriate test patch evaluation. In particular, the Operator responsible for each treatment should be adequately trained and have knowledge of the skin and subcutaneous tissue, including:

- Structural and functional differences of the hair and skin on different parts of the body.
- Aspects of wound healing, e.g. inflammation, angiogenesis, granulation tissue formation, collagen remodelling.
- Diagnostic criteria, e.g. clinical history, relative contraindicating factors, effect of previous treatment methods, emotional stability of Client.
- Physical examination, e.g. ascertaining skin colour, assessing degree of photo ageing, presence of keloid or hypertrophic scars and tattoos.

In addition, the operator must be familiar with treatment operating procedures, including all regulatory requirements and safety procedures, compliance with Occupational Health and Safety Administration requirements, and plans for managing medical emergencies.

The operator must also be adequately trained to offer the appropriate post operative care based on a comprehensive understanding of the treatment process. This should include any post operative precautions and medication and the ability to deal with any post operative findings such as erythema, pigmentary changes, infection or textural changes.

This section is not intended to replace hands-on training and no person should use this system without first undergoing the manufacturer's recommended training course.

Skin type (Based on the Fitzpatrick Scale)

1 – Always burn, never tan

2 – Sometimes burn, then tan

3 – Always tan, rarely burn, light Mediterranean

4 – Dark Mediterranean, light Asian

5 – Dark Asian

6 – Afro-Caribbean

9.2 Hair Reduction

Using the 610nm Hair Applicator:

Hair type is relative to the area being considered. Normal hair in one area may be considered to be thin in another, e.g. Upper lip compared to bikini line. Therefore the operator should be careful to take the area into consideration. If a number of hair types occur in one area, the hair type of the darker hairs should be chosen to ensure that the most apparent hairs are removed.

Once the Patient's skin type and hair type have been determined, the energy output of the System can be set, ensuring that the Hair Depilation Applicator (610nm) is connected. Whilst the Energist UltraPlus system is capable of a wide range of pulse and pulse delay settings, deviating from the following recommended settings should only be carried out by an experienced Operator and with the consent of the client.

The following tables provide the pulse settings for a successful treatment, however, the energies quoted should be used as a guideline and increased or decreased as necessary to gain the required end point.

As can be seen from the tables below, the starting fluence is decreased and the ***Off Delay*** is increased as the skin type darkens and pigmentation increases. Increasing the ***Off Delay*** helps protect the surrounding tissue by allowing it more time to cool down in comparison to the hair.
The format for the pulse train is:
first number. second number. third number (e.g. 5.3.1)
First number: Number of pulses in the train
Second number: the ON time
Third number: the OFF time

Hair Reduction

Skin Type	Hair Type	Pulse Train	Energy (J/cm^2)
I – One	Thin	5.3.1	24
II – Two	Thin	5.3.2	24
III – Three	Thin	5.3.4	22
IV – Four	Thin	5.3.6	16
V - Five	Thin	5.3.8	14
I – One	Medium	5.5.1	26
II – Two	Medium	5.5.2	26
III – Three	Medium	5.5.4	24
IV – Four	Medium	5.5.6	18
V - Five	Medium	5.5.8	16
I – One	Thick	5.7.1	28
II – Two	Thick	5.7.2	28
III – Three	Thick	5.7.4	26
IV – Four	Thick	5.7.6	20
V - Five	Thick	5.7.8	18

9.3 Skin Therapies

Using the 530nm Skin Therapy Applicator:

The following tables provide the pulse settings for a successful treatment, however, the energies quoted should be used as a guideline and increased or decreased as necessary to gain the required end point.

Skin Therapy

Skin Type	Degree of Damage	Pulse Train	Energy (J/cm^2)
I – One	Low	7.5.2	18
II – Two	Low	7.5.3	18
III – Three	Low	7.5.4	17
IV – Four	Low	7.5.5	16
V - Five	Low	7.5.6	15
I – One	Medium	6.5.2	18
II – Two	Medium	6.5.3	18
III – Three	Medium	6.5.4	17
IV – Four	Medium	6.5.5	16
V - Five	Medium	6.5.6	15
I – One	High	5.5.2	18
II – Two	High	5.5.3	18
III – Three	High	5.5.4	17
IV – Four	High	5.5.5	16
V - Five	High	5.5.6	15

Facial Thread veins

Skin Type	Vein Type	Pulse Train	Energy (J/cm^2)
I – One	Thin	5.3.1	26
II – Two	Thin	5.3.2	26
III – Three	Thin	5.3.3	26
IV – Four	Thin	5.3.4	22
V - Five	Thin	5.3.5	20
I – One	Medium	5.5.1	28
II – Two	Medium	5.5.2	28
III – Three	Medium	5.5.3	28
IV – Four	Medium	5.5.4	24
V - Five	Medium	5.5.5	22
I – One	Thick	5.7.1	30
II – Two	Thick	5.7.2	30
III – Three	Thick	5.7.3	30
IV – Four	Thick	5.7.4	26
V - Five	Thick	5.7.5	24

Thread veins on body

Skin Type	Vein Type	Pulse Train	Energy (J/cm^2)
I – One	Thin	5.3.1	28
II – Two	Thin	5.3.2	28
III – Three	Thin	5.3.3	28
IV – Four	Thin	5.3.4	24
V - Five	Thin	5.3.5	22
I – One	Medium	5.5.1	30
II – Two	Medium	5.5.2	30
III – Three	Medium	5.5.3	30
IV – Four	Medium	5.5.4	26
V - Five	Medium	5.5.5	24
I – One	Thick	5.7.1	32
II – Two	Thick	5.7.2	32
III – Three	Thick	5.7.3	32
IV – Four	Thick	5.7.4	28
V - Five	Thick	5.7.5	26

Epidermal Pigmented Lesions

Skin Type	Depth	Pulse Train	Energy (J/cm^2)
I – One	Surface	5.3.1	26
II – Two	Surface	5.3.1	25
III – Three	Surface	5.3.1	24
IV – Four	Surface	5.3.4	23
V - Five	Surface	5.3.5	22
I – One	Sub-surface	2.7.1	26
II – Two	Sub-surface	2.7.1	25
III – Three	Sub-surface	2.7.1	24
IV – Four	Sub-surface	2.7.4	23
V - Five	Sub-surface	2.7.5	22

Using the 415/630nm Applicator:

The following table provides the system pre-set pulse options for a successful treatment, however, the energies quoted should be used as a guideline and increased or decreased as necessary to gain the required end point.

Skin Type	Degree	Pulse Train	Energy (J/cm^2)
I – One	Mild	5.5.7	16
II – Two	Mild	6.5.7	16
III – Three	Mild	7.5.7	15
IV – Four	Mild	8.5.7	14
V - Five	Mild	9.5.7	13
I – One	Moderate	5.5.6	18
II – Two	Moderate	6.5.6	18
III – Three	Moderate	7.5.6	17
IV – Four	Moderate	8.5.6	16
V - Five	Moderate	9.5.6	15

Section 10: Information on Drug Induced Photosensitivity

There are many forms of medication and products available that can cause the skin to become sensitive to light. These drugs can be taken by mouth or applied to the skin, therefore it is important to ascertain whether the client is currently using these products or undergoing a course of medication.

When receiving a light based treatment, a reaction can sometimes occur, with varying degrees of severity. This varies greatly from client to client and ranges from no noticeable reaction through to blisters and severe skin responses. This reaction is called “Drug-Induced Photosensitivity” and can be divided into two groups:

Photo-toxic Reactions: these are dose related and can be seen to slight degree in people who are exposed to sunlight.

Photo-allergic Reactions: these involve the immune system and may be similar to other allergic reactions such as swelling, rashes and hives.

It is due to these reactions that it is advisable to ensure test patches are performed to determine if any adverse reaction occurs.

COMMON DRUGS THAT CAN CAUSE PHOTOSENSITIVE REACTIONS

*indicates high incidence of drug induced photoreactions

Drug Name	Trade Name
Antibiotics	
Dioxycycline	Vibramycin, Vibratabs
* Demeclocycline	Declomycin
Tetracycline	Achromycin, plus others
Nalidixic Acid	NegGram
* Lomefloxacin	Maxaquin
Blood Pressure & Heart Medications	
Hydrochlorothiazide	Hydrodiuril, Oretic, plus others Note: many drugs contain HCTZ as one of the ingredients.
Chlorothiazide	Diuril, plus others
Furosemide	Lasix
* Amiodarone	Cordarone
Other Drugs	
Chlorpromazine	Thorazine
Psoralens	Isotretinoin (Accutane)
PABA and or PABA esters	
Herbal/Natural Remedies	
St. Johns Wort	Kava Kava
Melatonin	

COMMON DRUGS THAT CAUSE PHOTOSENSITIVE REACTIONS LESS OFTEN

Drug Name (Common Trade Names)	Drug Name (Common Trade Names)
Alprazolam (Xanax)	Nifedipine (Procardia, Adalat)
Amitriptyline (Elavil, Endep, plus others)	Norfloxacin (Noroxin)
Benzocaine (Sensorcaine and other numbing products)	Nortriptyline (Aventyl, plus others)
Captopril (Capoten)	Oestrogens (Birth control pills, Premarin, plus others)
Chloradiazepoxide (Librium)	Ofloxacin (Floxin)
Chloroquine	Oral Contraceptives
Chlortetracycline	Oxytetracycline (Terramycin)
Ciprofloxacin (Cipro)	Perfenazine (trilafon)
Co-trimoxazole (Bactrim, Septra)	Phenylbutazone (Butazolidin)
Dapsone	Phenytoin (Dilantin)
Diltiazem (Cardizem, plus others)	Piroxicam (Feldene)
Diphenahydramine (Benadryl, Benylin, plus others)	Prochlorperazine (Compazine)
Enoxacin (Penetrex)	Promethazine (Phenergan)
Fluoracil (5-FU)	Protryptyline (Vivactil)
Glyburide (Diabeta, Micronase, Glynase, and other names)	Quinidine (Quinidex, Quinaglute, Cardioquin, plus others)
Griseofulvin (GrisPeg, Fulvicin, and other names)	Quinine (Quinamm)
Haloperidol (Haldol)	Sulfonamide antibiotics (Bactrim, Septra, Gantrisin, plus others)
Hydralazine (Apresoline)	Thioridiazine (Mellaril)
Ibuprofen (Advil, Motrin, plus others)	Thiothixene (Navane)
Isoniazid (INH)	Tolbutamide (Tolinase)
Methotrexate	Tretinoin (Retin-A)
Minoxidil (Loniten, Rogaine)	Trifluroperazine (Stellazine)
Naproxen (Naprosen, Alleve, plus others)	Vitamin A

- Use of these drugs does not exclude patients from treatment
- A medical consultation and release form should be acquired
- The client must be fully informed of the possible side-effects
- A test patch **MUST** be carried out

Section 11: Clinical Research Synopses

11.1 Introduction

The following synopses are of clinical papers published in various journals worldwide and are supplied as an overview of the work being carried out by Energist's clinical partners.

The following will help understand the reasoning and historical background to the studies presented in this document:

Evaluation of Safety and Efficacy of Variable Pulsed Light (VPL™) for the Treatment of Excess Hair in over 100 Volunteers
Published: Journal of the European Academy of Dermatology & Venerology, Vol 22, Issue 3, start page 311, 2008
Professor Knobler has been working with Energist since 2001. He provided the early data on the safety and efficacy of Energist systems for hair removal on 46 patients. He selected patients who were clinically diagnosed with hypertrichosis. These patients were also, in general, resistant to other forms of treatment including laser & pharmaceutical options. This initial study led to the further treatment and extended evaluation of over 100 patients followed for over 9 months. It is from this extended study that we have the data that is presented in the included synopsis.

The treatment of Acne Vulgaris with Variable Pulsed Light (VPL™) using the Energist Ultra VPL™
Published: Asthetische Dermatologie, Issue 3, 2006
This study was conducted in a very successful working medical aesthetic clinic in Southern Germany. Dr Gramlich was in search of an alternative therapy to offer to clients that were not responding to the routine acne treatments such as topical fruit acids, benzoyl peroxide and the most aggressive of all Roaccutane. When he saw the excellent results that he was achieving with the Ultra VPL™ system it was a great opportunity to share the data collected and provide a review of the causes and current treatments available for active acne.

Variable Pulsed Light (VPL™) reduces treatment-induced pain in patients undergoing photodynamic therapy for actinic keratoses
Published: British journal of Dermatology, Vol 157 Issue 1, Page 111, July 2007
This was undertaken as an ethically approved study as proof of concept for the use of VPL™ as an alternative light source to the commonly used LED sources. Prof. Szeimies holds a position of senior lecturer at the Department of Dermatology, UltraPlussburg University Hospital. At present his main research interests are in allergology and photobiology, especially photodynamic therapy. Prof. Szeimies has published more than 90 articles in peer-reviewed journals and over 40 chapters in books. Prof. Szeimies is president of the German Society for Photobiology, and vice-president of the European Society for Photodynamic Therapy in Dermatology.

Synopsis

Evaluation of Safety and Efficacy of Variable Pulsed Light (VPL™) for the Treatment of Excess Hair in over 100 Volunteers

Prof. Knobler et al

Background:
Several studies on Hair Removal with IPL and Laser Sources have been performed but adequate data on long term follow up is scarce. The present study evaluated safety and long term efficacy of Variable Pulsed Light (VPL™) on hair removal for medical and/or cosmetic indications.

Study design/material and methods:
The Variable Pulsed Light (VPL™) system (Energist Limited, UK) was used with indications on multiple body sites ranging from face, chest, extremities to other locations in 102 otherwise healthy volunteers. The minimum follow up time after the last treatment was 9 months.

Results:
Over 50% of hair clearance was observed in 85% of treated areas.
Erythema and Leucotrichia were the most often associated side effects. Transient pigmentary changes were not reported.

Conclusion:
The VPL™ System presents as an efficient and safe treatment alternative for long term removal of unwanted hair. It is particularly effective in fair-skinned patients with dark hair (Skin Types II-III-IV). Adverse effects are minimal and transient and in no patient significant enough to interrupt treatment.

Synopsis

The treatment of Acne Vulgaris with Variable Pulsed Light (VPL™) using the Energist Ultra VPL™

Dr. med. Gebhard Gramlich

Background:
Acne is a genuine illness of the skin predominantly affecting younger people. The aim of the study was to offer an alternative treatment option using VPL™ to the existing treatment methods such as UV and oral antibiotics

Study design/material and methods:
The Variable Pulsed Light (VPL™) system (Energist Limited, UK) handpiece utilised wavelengths between 530 and 950nm. 31 otherwise healthy volunteers aged between 16 and 50 years, with differing severities of Acne Vulgaris, and skin types ranging from I to IV were treated an average of 5 times over the whole face and upper-neck area. Treatment frequency was between 2 and 4 weeks and no other acne treatment was permitted within 4 weeks of the study.

Results:
With an average frequency of approximately 5 treatments per patient, altogether 80.64% of the cases achieved at least 70% improvement of the symptoms. 90.33% of the patients judged the result of the treatment as good and/or very good. Over 90% of the patients described the treatment as "pleasant".
No patient of the study experienced any further side effects than the local brief erythema formation (with 90% of the patients under 1h) which was an expected side-effect.

Conclusion:
The Energist Ultra VPL™ system is an outstanding method for the treatment of acne vulgaris at every level of severity. Since there is no contraindication, with a few exceptions, this opens up a broad application field for this therapy. When utilised correctly, this is a problem-free application which is practically pain free during and after the treatment, with an absence of side effects and rapid success. This therapy is important and valuable in the treatment of this dermatological complaint.

Synopsis

Variable Pulsed Light (VPL™) reduces treatment-induced pain in patients undergoing photodynamic therapy for actinic keratoses

Prof. Szeimies et al

Background:
Photodynamic therapy (PDT) using LED's as the illumination source is a well documented and established treatment alternative for epithelial skin cancer like basal cell carcinoma and actinic keratoses (AK). The purpose of this study was to investigate an alternative illumination source using variable pulse light (VPL™, Energist Ultra, Energist, U.K.).

Method:
A randomized parallel-group trial was conducted. A total of 25 patients were included suffering from actinic keratoses (AK) on the skin and the scalp. Methyl aminolevulinate (MAL, Metvix, Galderma, France) was applied on the targeted area for 3 hrs, subsequently one side received an illumination with a LED light source, and the contra lateral side received treatment with VPL™. Therapeutic outcome was evaluated using a lesion score after 2 weeks and 3 months; pain assessment was made after each treatment side with the use of a visual analogue scale (VAS).

Results:
After two weeks and three months, there was no significant difference between the therapeutic outcomes using the different illumination systems. However, pain assessment immediately after PDT revealed a significant lower pain level (4.3 vs. 6.4) for the VPL™ treated side.

Conclusions:
The use of the Energist Ultra VPL™ system (variable pulsed light) is thus an efficient and useful alternative in the photodynamic treatment of AK where otherwise pain development can be a limiting factor for the performance of PDT.

Section 12: Glossary of Terms

This glossary of terms is meant as a reference for some of the most commonly used terminology in the cosmetic surgery field.

A

Abdomen: the soft area between the rib cage and the pubic area. A common area for excess hair, often in a line from the belly button to the pubic hair.

Acid: a liquid, usually corrosive, with a pH lower than 7, opposite of an alkali.

Acne: an inflammation of the skin, a result of over production of oil and bacteria. (Active Acne or Acne Vulgaris).

Actinic Keratosis: A small rough spot on skin chronically exposed to the sun, occurs most frequently in fair skinned people.

Acupuncture: a method of relieving pain by inserting needles into the skin.

Acupressure: a method of relieving pain by pressing down on an area of the body.

Adrenal: a gland that affects certain types of hair growth.

AHA: see alpha-hydroxy acid.

Alcohol: a liquid sometimes used for disinfecting skin before and after treatment. Ethyl grain isopropyl.

Alexandrite: Laser whose wavelength is at 755nm, used for hair removal.

Alkali: a liquid with a pH higher than 7. Alkalis are used in depilatory creams that dissolve hair, and galvanic electrolysis produces alkalis which can destroy a hair follicle.

Allergy: a bodily reaction to an irritant. Skin allergies can be exacerbated by solutions put on the skin.

Alpha Hydroxy Acid: known as AHA, these solutions are used as exfoliants. They can help reduce ingrown hairs and improve the look of skin.

Alopecia: hair loss induced by biologic or medical means. Male pattern baldness is a type of alopecia.

Alternating Current: the type of electricity that comes from a wall outlet (AC), as opposed to direct current (DC).

Ammonia: a strongly alkaline solution in water.

Ammonium Thioglycolate: a common ingredient in chemical depilatories.

Ampere: a measurement of electrical current.

Anagen: the active stage in a hair growth cycle.

Analgesic: a substance used to relieve pain.

Anaphoresis: the forcing of liquids into skin from the negative to the positive pole. The opposite is cataphoresis.

Androgen: hormone that causes masculine characteristics and affects hair growth. Higher androgen levels can lead to increased amounts of hair.

Anaesthetic: a substance used to relieve all feeling.

Angiogenesis: the growth of blood vessels. An important natural process used by body for reproduction and for healing injured tissues. Blood vessels bring oxygen and nutrients through the circulation to nourish all tissues in the body. The cells comprising blood vessels are called endothelial cells. The endothelial cells of a blood vessel also produce molecules that support the growth of tissues. In females, angiogenesis also occurs each month, in the ovaries and in the uterus, as part of the reproductive menstrual cycle. In virtually all other situations, angiogenesis only occurs if there is disease present.

Angiokeratoma: Discrete pink to red telangectatic lesions which commonly occur on the feet and legs. They are often characterized by changes that involve thickening or hyperkeratinization of the epidermis.

Anode: a positive electrode.

Anti-Androgen: a drug or product that limits the effects of androgens (male hormones)

Antibiotic: a drug or preparation used to prevent and treat infection.

Antiseptic: a chemical agent that prevents the growth of bacteria.

Areola: the pigmented area surrounding the nipple. A very common area for hair growth.

Arrector pili: a tiny muscle attached to the base of the hair follicle. When this involuntary muscle flexes, it causes the hairs to stand up and causes “goosebumps.”

Atopic Dermatitis: also known as eczema.

Autoclave: a machine used to sterilize medical utensils and some hair removal devices.

Axilla: the medical term for armpit, a common place for gonadal hair after puberty. Armpit hair is referred to medically as axillary hair.

B

Bacteria: an organism responsible for infection.

Barba: medical term for beard.

Biopsy: a section of skin tissue removed for clinical observation.

Black skin: probably the most difficult type of skin from which to remove hair, Type VI on the Fitzpatrick scale.

Birth control: drugs that sometimes cause increased hair growth.

Birthmarks: discoloured skin that should be examined and approved by a physician before hair removal.

Blackheads: a type of clogged pore in the skin with a visible black plug.

Blanching: a whitening of the skin sometimes caused by some types of hair removal. Also called hypopigmentation.

Bleach: a method used to disguise (not remove) hair by lightening its colour.

Blend: a modality of electrolysis which uses both thermolysis and galvanic methods.

Blister: a small fluid-filled bubble on the skin caused by heat from over treatment with certain types of hair removal.

Blonde hair: is not as visible as dark hair, but it's also harder to treat. Lasers have limited effects on it because of its lack of pigment, and it is difficult to see against the skin.

Bulb: the root of a hair, so named because it's wider at the base.

Bulbous needle: a type of electrolysis needle.

Bulge: a point midway up the hair follicle which researchers suspect must be damaged to induce permanent hair removal.

Broken capillaries: these tiny blood vessels at the surface of the skin appear as streaks or blotches. Most common on the face, they are caused by ageing, sun and trauma. Whilst not harmful they can be unsightly.

Bruise: a discoloration of skin from blood, sometimes caused by electrolysis, plucking, or waxing. Also known as Purpura.

C

Calamine: a pink ointment sometimes used to treat skin irritation.

Calcium Thioglycolate: the active dissolving ingredient in many cream depilatories.

Capillaries: tiny hair-like blood vessels, some of which carry nutrients to the hair growth matrix.

Carbon Dioxide Laser: also known as a CO_2 laser, these are commonly used to perform skin resurfacing.

Catagen: a brief middle stage in the hair growth cycle, between active (anagen) and inactive (telogen) stages.

Cataphoresis: the forcing of substances into the skin from a positive to a negative pole. It is sometimes used after electrolysis to firm skin and reduce redness.

Cathode: a negative electrode in a cell or circuit.

Chemical Depilatories: powder or cream preparations that dissolve hair above the surface of the skin. Some find these products very irritating to the skin.

Cherry Angioma: Small, bright red to purple coloured, papular lesion that is usually found on the trunk and proximal extremities. Onset may be early adult, becoming more common with age.

ChillTip: a patented contact cooling device used in laser hair removal.

Chromophore: The substructure that is responsible for the spectral selective absorption of electromagnetic radiation.

Cilia: medical term for eyelashes. Ingrown eyelashes should never be removed except under the supervision of a trained medical specialist.

Clearing: a method of hair removal in which all hair in an area is removed at once, as opposed to thinning.

Club Hair: a non-living hair in the last stages of the hair growth cycle. It is detached from the follicle but has not yet shed.

Coagulation: The process by which blood clots. Can be induced by heat or chemicals.

Coherent Light: Light that stays focused, a property of lasers.

Collagen: a protein that holds all connective tissue together under the skin. Collagen is sometimes damaged by plucking or electrolysis, which can lead to dimpling on the skin. Collagen, from a plant, is also used to fill in scars and augment lips, often with temporary results.

Cold Sore: a viral infection that appears around the mouth. Hair removal, especially electrolysis and lasers, should not be performed around visible cold sores.

Comedogenic: causes blackheads (Comedones).

Comedones: a medical term for blackheads.

Congenital: a condition that is hereditary. Excess hair often runs in the family.

Contact Cooling: a method of cooling the epidermis immediately prior to laser irradiation in hopes of reducing or eliminating damage to the skin's surface.

Continuous Stimulation Technique: a pain reduction method in which the client is distracted by something during treatment (music, etc).

Cortisone: an anti-inflammatory sometimes linked to hair growth when taken internally.

Cosmetics: certain types of cosmetics (especially liquid foundations and powders) can be used to conceal but not remove hair. Some women and men use this method in conjunction with a hair removal method. Some methods of hair removal require you to not use cosmetics immediately after to aid in skin recovery.

Cortex: the soft centre of a hair.

Crusting: Dried fluid that seeps from the skin in some clients following hair removal such as laser, electrolysis, and depilatories. It's best to keep these crusts clean and not pick them to avoid infection and scarring. These crusts are also called eschars.

Current: the flow of electricity, either alternating (AC like a wall outlet) or direct (DC like a battery).

Curved Follicles: a relatively rare condition which makes certain hair removal methods more difficult and can lead to ingrown hairs.

Cushing Syndrome: a disease caused by a tumour on the adrenal gland, which can cause excess hair growth.

Cutaneous: relating to the skin.

Cuticle: the hard outer part of a hair.

Cyst: A closed sac or capsule usually filled with fluid or semisolid material.

D

Danazol: a drug sometimes linked to excess hair growth.

Depilation: the temporary removal of hair.

Depilatories: substances used to dissolve hair above the skin's surface.

Dermabrasion: a cosmetic procedure used to smooth skin and reduce scars.

Dermal Papilla: a tiny bulge at the root of a hair, believed to be one of the primary targets in permanent hair removal.

Dermal Sheath: a lining around a hair.

Dermatitis: Atopic Dermatitis is also known as Eczema. Contact Dermatitis is an inflammation of the skin caused by direct contact with an irritating substance.

Dermatologist: a doctor specializing in skin and hair conditions.

Dermis: the deepest layers of the skin, where blood vessels, lymph channels, nerve endings, sweat glands, sebaceous glands, fat cells, hair follicles and muscles are located. The dermis varies in thickness over different sites of the body.

Dexamethosone: a steroid anti-inflammatory which sometimes causes hair growth.

Diabetes: a disease where the body improperly produces insulin, sometimes linked to excess hair growth.

Diathermy: another name for thermolysis.

Diazoxide: a drug sometimes linked to excess hair growth.

Diet: is sometimes linked to excess hair growth, especially in the extremely obese and extremely anorexic.

Dilantin: a drug sometimes linked to excess hair growth.

Diode : a semiconductive material which mainly lets energy travel one direction and not the other. Light-Emitting Diodes (LEDs) are used for the numeric displays on microwaves and VCRS as well as for lasers.

Direct Current: also called DC, it is a type of electrical energy that travels in one direction. The other type is alternating current (AC). Direct current is used in the galvanic electrolysis method to cause a chemical reaction in the hair follicle.

Discomfort: varies greatly by individual and body area. Electrolysis is generally considered most painful, followed by laser, plucking, waxing and finally pulse light sources. Body areas most prone to discomfort are underneath the nostrils, around the lips, and the bikini zone.

Distorted Hair Follicles: a relatively rare condition in which the follicle is not straight. This condition can make waxing and electrolysis more difficult and can lead to ingrown hairs and is very successfully treated using pulsed light.

Double-blind: a clinical testing method in which neither patient nor doctor know what medication or procedure is being used.

Drug Treatment: excess hair or sensitivity to light can be increased by certain drugs. These drugs often affect hormonal levels. Consult a physician if a drug seems to be causing increased hair growth.

Dynamic Cooling: a method of epidermal cooling which cools the skin with supercooled liquid immediately before a laser or intense light pulse is applied.

E

Ears: a common place for hair removal in older males. Only hair on the outer ear should be treated, and never inside the ear canal due to risk of infection.

Eccrine Gland: a medical term for sweat gland. These tiny pores do not contain hair follicles.

Eczema: also called contact dermatitis, it's a mild inflammation of the skin.

Edema (Oedema): a medical term for swelling.

Efficacy: a term meaning how well or effectively a cosmetic device works.

Electric Tweezer: A device that removes hair by grasping hairs above the skin's surface with an electrified tweezer. FDA has stated that no electric tweezers have shown evidence that they can perform permanent hair removal.

Electro coagulation: the use of heat generated by electricity to change tissue from a fluid to a semi-solid, similar to cooking an egg. Electro coagulation is the operating method behind flash thermolysis.

Electrode: in hair removal, a conductor through which electricity enters or leaves the body. An electrolysis needle is an electrode.

Electrology: the practice of hair removal through the use of electrified needles, invented in the 1870's. Electrologist - a practitioner of electrology.

Electrolysis: in hair removal, the practice of epilation with electrified needles. Electrolysis was originally the name for hair removal with direct current only (also called galvanic), although the term is generally applied to all three modalities of epilation with an electrified needle.

EMLA: is a prescription topical anaesthetic used by some clients of laser and electrolysis to reduce and eliminate pain.

Energy Density: Term used to measure the output energy for Lasers and Pulsed Light Sources. Quoted in J/cm^2 (Joules per square centimetre). See Fluence.

Endocrine System: a group of glands which maintain the body's internal environment through the production of hormones. Imbalances in this system can sometimes lead to increased or decreased hair density. Glands in the endocrine system include the pituitary, thyroid, parathyroid, adrenal, pancreas, ovaries, and testes.

Epidermis: the thin outer layer of skin, on top of the thicker and deeper dermis.

Epilation: the removal of hair below the skin's surface (as opposed to depilation). Epilation methods include plucking, waxing, electrolysis and laser.

Er:YAG: Laser used for fine skin resurfacing.

Erythema: a medical term for the redness that sometimes follows hair removal and skin rejuvenation.

Erythematous Hypertrophic Scar: Red, raised, smooth scar containing linear or arborizing arteriolar telangiectasia. Usually more visible and may cause the patient pain and itching. Treatment with the Elite System can eliminate the vessels and may also reduce the bulkiness of the scar and normalize the surface texture.

Eschar: a small temporary scab that occurs sometimes after electrolysis, especially after overtreatment.

Estrogen (Oestrogen): a female hormone sometimes linked to increased hair growth.

Exfoliation: the removal of dead skin cells to reveal softer skin underneath.

Eyelashes: protective hairs on the eyelid. Some people get ingrown hairs here, which should only be treated under a physician's care, preferably an ophthalmologist (eye doctor).

F

Face Lift: Surgical procedure that lifts and stretches the patient's skin to provide a firmer more youthful look. Does not improve appearance of the skin itself. Some face lift patients require hair removal under and behind the ears following this procedure, since hair-bearing skin ends up being moved behind the ear.

Fibroblasts: Cells within the extracellular matrix that produce new collagen molecules when stimulated.

Fluence: Term used to measure the output energy, for Lasers and Pulsed Light Sources, that is delivered to tissue. Quoted in J/cm^2 (Joules per square centimetre).

Folliculitis: A common disorder characterised by inflammation of the hair follicle. Also known as Pseudofolliculitis Barbae (PFB) or Tinea Barbae. Appearance of raised lumps and a rash. Prevalent in Type V and VI males.

G

Grey Hair: hair that has lost its pigment.

H

Hair Growth Cycle: Hair passes through a series of cycles known as Anagen (growing phase), Catagen (resting phase) and Telogen (dormant phase).

Haemangioma: Superficial to deep collection of tortuous vessels that is raised above the skin surface. May be present at birth, but more commonly present after the first few days to weeks of life. May be disfiguring and the cause of significant morbidity. Visual impairment and airway obstruction may cause significant problems. Small, proliferate lesions may be successfully treated with the Energist ULTRA™. The system may arrest proliferation, induce involution and assist in healing ulcerated areas. Large haemangiomas may require surgical and pharmaceutical intervention.

Hirsutism: Excessive hair growth, accompanied by enlarged hair follicles and increased pigmentation.

Hyperpigmentation: An over excitation of melanocytes, darkening of the skin. Can be seen as sun-induced freckles or melasma.

Hypopigmentation: Caused by an absence of melanocytes, whitening of the skin. Vitiligo is a common medical complaint.

I

Ingrown Hair: a hair that does not break the surface of the skin, and grows back inward. Can be severe and cause inflammation, soreness and infection.

J

Joule: A unit of energy. Describes energy output for pulsed light based systems.

J/cm^2: Joules per square centimetre

K

Keloids: a type of raised darkened scar, more common with dark skin. Due to a defect in the healing process.

Keratin: a fibrous protein found in hair, nails, and skin.

L

Laser: An acronym for **L**ight **A**mplification by the **S**timulated **E**mission of **R**adiation. A commonly used tool for cosmetic and surgical procedures.

Lentigo: A flat, discoloured area of skin similar to a freckle. Sun induced lentigines (plural of lentigo) are known a Solar Lentigines.

M

Melanin: Natural substance that gives colour (pigment) to hair and skin.

Melanocytes: Pigment cells which produce melanin, that are found in the lower part of the epidermis.

Melanoma: a form of skin cancer. Occurs when the melanocytes become malignant. Often the first sign of a melanoma is a change in the size, shape, colour or feel of an existing mole.

Melasma: dark skin discolouration on sun-exposed areas of the face and neck. Young women with brownish skin tones are at greatest risk. Also known as Chloasma.

N

Non-Invasive: procedures that do not involve tools that break the skin or physically enter the body. Pulsed light treatments are classed as non-invasive procedures.

NSAIDs: Non-steroidal anti-inflammatory medication. Common over-the-counter products include aspirin and ibuprofen. They help reduce inflammation, lower fevers and reduce blood clotting. These products should be avoided by clients when undergoing vascular or skin rejuvenation treatments.

O

Open Pores: Age and sun damage can aggravate open pores on the face. The Energist UltraPlus system can help improve the skin's texture.

Outer Root Sheath: a soft thin layer surrounding the lower two-thirds of a hair.

Ovaries: in women, a major source of female hormones. Certain conditions involving the ovaries can lead to excess hair growth, especially polycystic ovary syndrome (PCOS).

Overtreatment: overly aggressive treatment to remove hair which leads to temporary or permanent skin damage.

P

PABA: esthers found in sunscreen and cosmetic products that can make skin sensitive.

Permanent: a definition set by the American FDA that most laser and intense light source manufacturers claim to meet for hair removal.

Pigmented Lesion (Benign): Variety of skin conditions, mainly the result of excess melanin. Commonly known as Café au Lait stains, birthmarks, age spots and freckles.

Port Wine Stain: Vascular birthmark that ranges in colour from pale pink to dark purple. Primarily located on the face and neck, it can also cover the arms, legs and trunk and usually unilaterally. The reported incidence is 0.3%. The lesion is flat initially, but adults in the third decade of life may experience the development of nodularity. Response of treatment varies with colour, maturity, depth and nodularity of the lesion.

Psoriasis: Chronic skin inflammation characterised by frequent episodes of redness, itching and thick, dry scales.

Q

Q-Switch: A device that produces short intense bursts of energy from a laser.

R

Retin-A: Retinoic Acid, compound that is often used to improve the appearance and texture of the skin.

Rosacea: also known as Acne Rosacea or Adult Acne. A disorder involving chronic inflammation of the cheeks, nose, chin, forehead or eyelids. It may cause redness, vascularity, swelling or hyperplasia (increased size of tissue) or skin eruptions.

Ruby: Commonly used laser for hair and tattoo removal.

S

Sacrum: Bone in the lower back.

Selective Photothermolysis: Selectively targeting dermal structures with light energy, without causing damage to surrounding tissue.

Spider Angioma: The characteristic central papule and radiating branches distinguish this lesion from linear vessels found in other types of telangiectasia. Commonly seen in preschool and school age children.

Striae (Stretchmark): A fine pinkish-white or grey line or band elevated above or depressed below surrounding tissue. Usually seen in parts of the body where the skin has been stretched. Commonly seen on thighs, abdomen and breasts of women who are or have been pregnant. Empirical data indicates the improvement of Striae Rubia; Striae Alba may not show the same levels of improvement.

Subcutaneous: Beneath or under the skin.

T

Telangiectasia: Acquired (chronic sun exposure) or congenital, permanent dilatation of the capillaries, marked by superficial vessels that range in colour from red to purple. Most frequently seen on the nose, cheeks and chin but can also be found on the lower extremities. One of the most common vascular lesions seen by the general Dermatologist with a reported incidence of 30% in the general population. Telangiectasias are defined as vessels having a diameter of less than one millimetre.

Telogen: resting phase of the hair cycle.

U

Ulcer: An area of tissue erosion. They are always depressed and are due to irritation. They may become infected and inflamed as they grow.

V

VPL™: Variable Pulsed Light, trademark of Energist Ltd, and describes the output from their range of systems, in terms of a precisely controlled sequence of pulses of light.

Venous Lakes: A collection of dilated lake-like venules in the upper dermis that are flat or slightly raised. These lesions are soft, dark blue to purple in colour, average 2-10 mm in diameter and may bleed with trauma. Commonly seen on the lips or ears of the elderly.

Verruca (warts): Benign tumours of epidermal cells induced by the human papillomavirus. They occur in about 10% of adults and children.

Vesiculation: Blister formation caused by thermal damage.

W

Wrinkles: Due to decreased amounts and alteration of dermal collagen. Brought on by age and sun damage.

APPENDIX A

Generic Consultation Forms

NOTE

Forms: The following are generic examples of the forms that you may require to provide safe and effective treatment procedures. These can be adapted and customised to suit your clinic and provide the basis for a comprehensive client management system.

Local Rules: The following set of local rules are generic and will provide the basis for a safe working environment for your staff and clients.

Consent form and treatment protocol

Consent documentation **must** be completed on every occasion in which the Energist Ultra VPL™ system is to be used, including test-patches, training visits, demonstrations, in-house clinics and on any other occasion in which the machine is to be used on a person. This includes treatments on other members of your staff, family, friends and members of the public. A test-patch **must** be completed before treatment.

Please tick and date each section and keep a copy for your files.

Type of session (e.g. demo/training etc.) …….
Date of session …….
Location of session …….
Name of Trainer …….
Test patch completed …….
Any adverse reactions to test patch …….
If yes, list …….
……
……
……
……
Number of people present ……..
Names of people present ……..
……..
……..
……..
……..
……..

Any skin observations to note

All persons receiving a test-patch are required to fill out the following form – please include date and signature

(1) Are you taking medication that may make your skin photosensitive?
□ Yes □ No If Yes, what type?
A list of the more common medications which may cause photosensitivity is available from the consultant.

(2) Are you pregnant?
□ Yes □ No

(3) Do you have high blood pressure?
□ Yes □ No

(4) Have you ever been diagnosed with any form of serious illness?
□ Yes □ No If Yes, what type?

(5) Do you have any medical conditions?
□ Yes □ No If Yes, what type?

(6) Do you have a personal or family history of skin cancer?
□ Yes □ No

(7) Do you have any allergies?
□ Yes □ No If Yes, what type?

(8) Do you take any medicine for allergies?
□ Yes □ No If Yes, what type?

(9) Are you taking any other medication not mentioned above?
□ Yes □ No If Yes, what type?

(10) Do you have any other medical condition not mentioned above?
□ Yes □ No If Yes, what type?

(11) Have you had any facial or body treatment within the last 7 days?
□ Yes □ No If Yes, what type?

INDEMNITY:
I confirm that the information that I have supplied is true and correct, and that I have read, understood and accept the above-mentioned information. I also confirm that the consultant has clarified any questions I did not understand.
I hereby indemnify the operator, the clinic owners and their staff, the franchiser and their employees and the manufacturer of the equipment from any claims whatsoever.

Client Name:

Client Signature:

Consultant Signature:

Date:

Health History Form

_____Clinic

Client Number:	Address:
Client Name:	
Date of Birth:	Tel:
Sex: ☐ Male ☐ Female	Doctors Name:
Operators Name:	Date:

Please answer the following questions:

Skin Type

☐ Normal ☐ Dry ☐ Oily ☐ Sensitive ☐ Other:

Skin Colour

☐ White ☐ Olive ☐ Oriental ☐ Indian ☐ Afro-Caribbean

Skin Conditions

☐ Moles ☐ Freckles ☐ Acne ☐ Psoriasis ☐ Eczema

☐ Shingles ☐ Herpes ☐ Keloid Formation ☐ Wound healing issues

☐ Vitiligo ☐ Pigmented Patches ☐ Prone to Pigmentation

☐ Other:

What other cosmetic procedures have you undertaken?

☐ Face Lift ☐ Laser Resurfacing ☐ Hair Removal ☐ Botox

☐ Cosmeceuticals ☐ Chemical Peels ☐ Dermabrasion ☐ Pulsed Light

☐ Other:

How would you describe your reaction to the Sun?

☐ Type I (1) – Always burn, never tans

☐ Type II (2) – Sometimes burn, then tans

☐ Type III (3) – Always tan, rarely burns

☐ Type IV (4) – Rarely burns, tans with ease

☐ Type V (5) – Moderately pigmented, tans profusely

☐ Type VI (6) – Deeply pigmented, never burns

Are you taking medication that may make your skin photosensitive?

☐ Yes ☐ No If Yes, what type?

A list of the more common medications which may cause photosensitivity is available from the consultant. If you are on a course of medication, it is advisable to bring along the data sheet enclosed with the medication to be checked for contra-indications prior to treatment.

Are you pregnant?

☐ Yes ☐ No

Do you have high blood pressure?

☐ Yes ☐ No

Have you ever been diagnosed with any form of serious illness?

☐ Yes ☐ No If Yes, what type?

Do you have any medical conditions?

☐ Yes ☐ No If Yes, what type?

Do you have a personal or family history of skin cancer?

☐ Yes ☐ No

Do you have any allergies?

☐ Yes ☐ No If Yes, what type?

Do you take any medicine for allergies?

☐ Yes ☐ No If Yes, what type?

INDEMNITY:

I confirm that the information that I have supplied is true and correct, and that I have read, understood and accept the above-mentioned information. I also confirm that the consultant has clarified any questions I did not understand.

I hereby indemnify the operator, the clinic owners and their staff, the franchiser and their employees and the manufacturer of the equipment from any claims whatsoever.

Client Name:

Client Signature:

Consultant Signature:

Date:

Hair Removal Consultation Form

Client Number:	Notes:
Client Name:	
Date of Treatment:	
Operators Name:	Date:

Please answer the following questions:

Natural Hair Colour

☐ Black ☐ Brown ☐ Dark Blonde ☐ Dark Auburn ☐ Grey
☐ Blonde ☐ Red ☐ Dark Brown ☐ Light Brown ☐ White

Previous Treatment Methods

☐ Epilation ☐ Shaving ☐ Depilatories ☐ Electrolysis ☐ Waxing/Sugaring
☐ Other:

Areas to be treated:

☐ Abdomen ☐ Armpits ☐ Back ☐ Bikini
☐ Buttocks ☐ Cheeks ☐ Chest ☐ Chin
☐ Ears ☐ Eyebrows ☐ Feet ☐ Fingers
☐ Forearms ☐ Full Arms ☐ Full Legs ☐ Hands
☐ Lower Legs ☐ Neck ☐ Shoulders ☐ Thighs
☐ Upper Arms ☐ Upper Lip
☐ Other:

Expectations:

1. What are your realistic goals?

2. What concerns do you have regarding treatment?

3. Do you have any questions regarding the treatment procedure?

Client Signature: Consultant Signature:

Consultant notes: Is this client suitable for treatment? YES/NO If no, why?
If yes, have you explained: treatment/completed medical history/witness signed consent/addressed any concerns/explained pre- and post-treatment care procedures?

Client Consent to Hair Removal Using Energist ULTRA VPL™

Client Name: ……..… Phone: ……

Client Address ……..……..

I understand that the procedure is an elective cosmetic procedure and herby acknowledge the following:-

1. I understand that the extent of hair removal by the ***Energist ULTRA*** VPL™ varies from person to person and therefore the response to treatment can also vary. Although, in the ideal patient the ***Energist ULTRA*** VPL™ treats virtually all the pigmented actively growing hairs at each treatment, and thus three to five spaced treatments should be sufficient for good clearance, one cannot guarantee that every single follicle is treated in the chosen area.
2. I would like the following area of my body to be treated: ……..... I understand that the cost of treatment will be £……..… per session.
3. I understand that immediately following treatment (post) the area may appear reddened and there is a *very slight* chance that small blisters may appear.
4. I understand also that following treatment I need to wait at least 10 to 14 days to see the full response and will need to have a second/third/fourth future treatment.
5. I understand that there is a *very slight* possibility, following treatment, that hypopigmentation of the area being treated may occur causing the skin to appear paler, or hyperpigmentation of the area being treated may occur causing the skin to appear dark. These symptoms, if they occur, are usually temporary and slight but the clinic is unable to guarantee that all normal pigment returns. I understand that there is a very slight risk of scarring with any skin treatment but in this case it is *extremely small.*
6. I confirm that I have provided the clinic with any medical details, which may be relevant to my treatment.
7. I have read the Hair Removal Fact Sheet and I have been fully counselled.

My signature below constitutes my acknowledgement that I have read, understand and fully agree to the foregoing consent, the proposed treatment process has been satisfactorily explained to me and I have all the information which I require. I hereby give my consent and authorisation voluntarily and release this establishment and its agents of any claims that I have or may have in the future in connection with the described treatment.

……..….	……..……	……..……
Client/Guardian Signature	Clinic Signature	Date

Treatment Check List (Therapist MUST complete before each treatment)

➢ *Does the client have any of the contra-indications?*	*Yes*	*No*
➢ *If the Client has gained a tan, was it within the last 4 weeks?*	*Yes*	*No*
➢ *Does the Client have any skin abnormalities which may be of concern?*	*Yes*	*No*
➢ *If the Client has received previous treatments, have they had any problems?*	*Yes*	*No*
➢ *Are you UNCERTAIN of the parameters required to treat the client?*	*Yes*	*No*

Skin Rejuvenation Consultation Form

Client Number:	Notes:
Client Name:	
Date of Treatment:	
Operators Name:	Date:

Please answer the following questions:

Skin Type

☐ Dry ☐ Oily ☐ Normal ☐ Patchy ☐ Sensitive

☐ Prone to pigmentation ☐ Open pores ☐ Other:

Previous Treatment Methods

☐ Electro Surgery ☐ Laser ☐ Acid Peels ☐ MicroDermabrasion

☐ Other:

Areas to be treated:

☐ Abdomen	☐ Armpits	☐ Back	☐ Bikini
☐ Buttocks	☐ Cheeks	☐ Chest	☐ Chin
☐ Ears	☐ Eyebrows	☐ Feet	☐ Fingers
☐ Forearms	☐ Upper Arms	☐ Upper Lip	☐ Hands
☐ Lower Legs	☐ Neck	☐ Shoulders	☐ Thighs

☐ Other:

Expectations:

1. What are your realistic goals?

2. What concerns do you have regarding treatment?

3. Do you have any questions regarding the treatment procedure?

Client Signature: Consultant Signature:

Consultant notes: Is this client suitable for treatment? YES/NO If no, why?
If yes, have you explained: treatment/completed medical history/witness signed consent/addressed any concerns/explained pre- and post-treatment care procedures?

Client Consent to Skin Rejuvenation Using Energist ULTRA VPL™

Client Name: ……..… Phone: ……

Client Address ……...……..

I understand that the procedure is an elective cosmetic procedure and herby acknowledge the following:-

1. I understand that the extent of rejuvenation by the ***Energist ULTRA*** VPL™ varies from person to person and therefore the response to treatment can also vary.
2. I would like the following area of my body to be treated: ……..... I understand that the cost of treatment will be £……..… per session.
3. I understand that immediately following treatment (post) the area may appear reddened and there is a *very slight* chance that small blisters may appear.
4. I understand also that following the first treatment I may not see an immediate effect and will need to have a second/third/fourth future treatment.
5. I understand that there is a *very slight* possibility, following treatment, that depigmentation of the area being treated may occur causing the skin to appear paler, or hyperpigmentation of the area being treated may occur causing the skin to appear dark. These symptoms, if they occur, are usually temporary and slight but the clinic is unable to guarantee that all normal pigment returns. I understand that there is a very slight risk of scarring with any skin treatment but in this case it is *extremely small.*
6. I confirm that I have provided the clinic with any medical details, which may be relevant to my treatment.

My signature below constitutes my acknowledgement that I have read, understand and fully agree to the foregoing consent, the proposed treatment process has been satisfactorily explained to me and I have all the information which I require. I hereby give my consent and authorisation voluntarily and release this establishment and its agents of any claims that I have or may have in the future in connection with the described treatment.

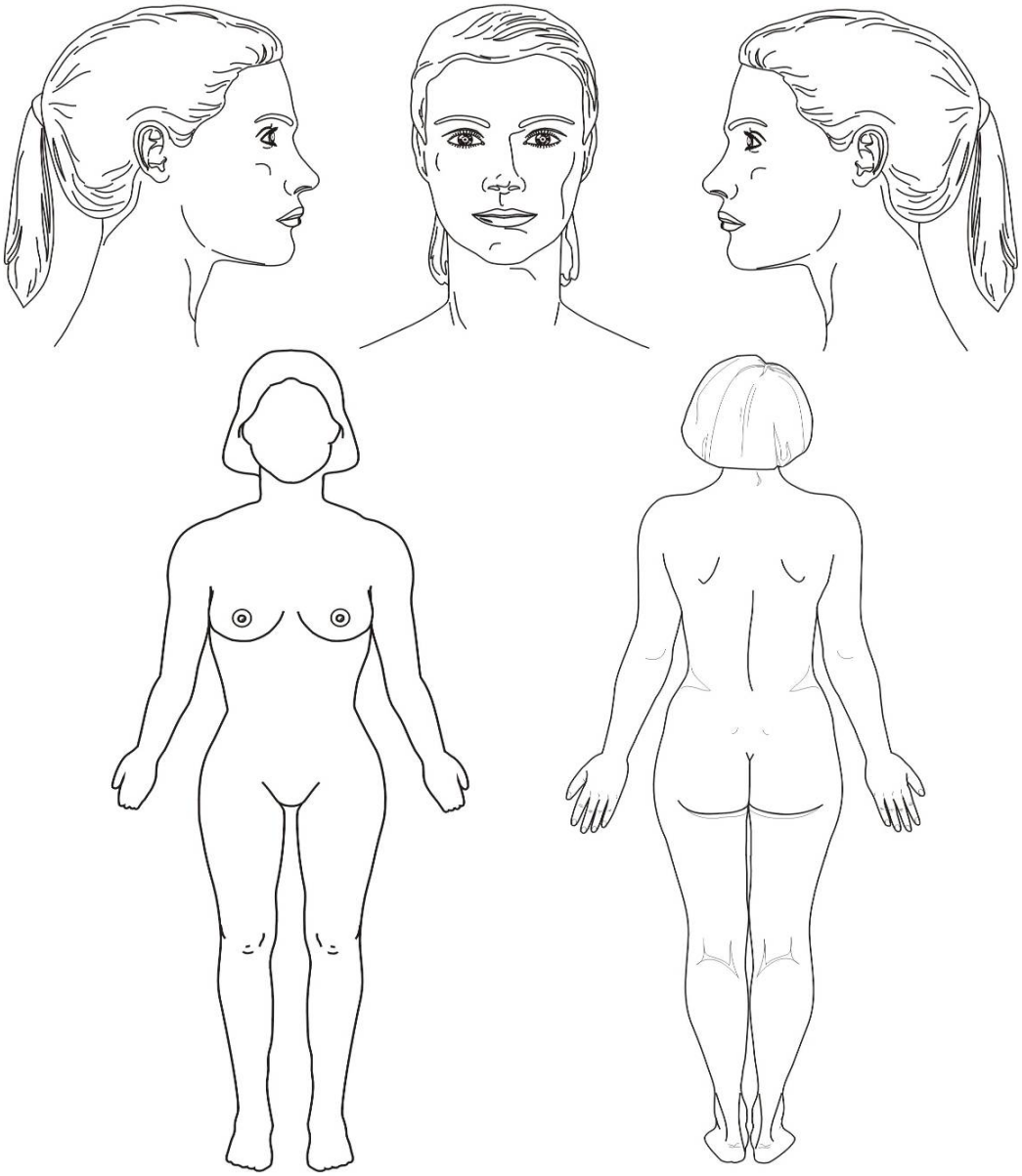
……...….	……...……	…….……
Client/Guardian Signature	Clinic Signature	Date

Poor Test
Although my test results have been below average, I agree to the complete treatment with the ***Energist ULTRA*** VPL™ and I am aware that the response of the whole area is likely to be similar.

……..…	…….
Patient Signature	Date

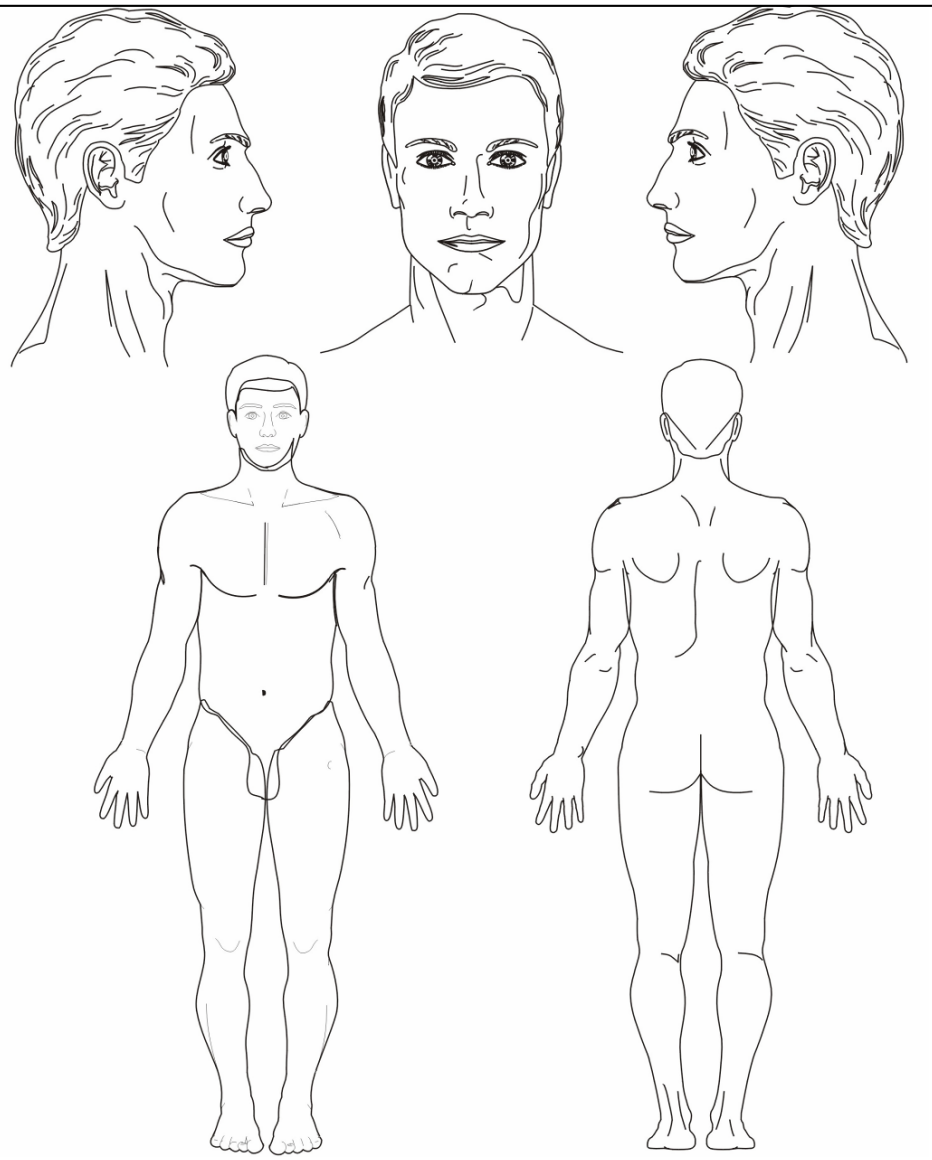
Treatment Check List (Therapist MUST complete before each treatment)

➢ *Does the client have any of the contra-indications?*	*Yes*	*No*
➢ *If the Client has gained a tan, was it within the last 4 weeks?*	*Yes*	*No*
➢ *Does the Client have any skin abnormalities which may be of concern?*	*Yes*	*No*
➢ *If the Client has received previous treatments, have they had any problems?*	*Yes*	*No*
➢ *Are you UNCERTAIN of the parameters required to treat the client?*	*Yes*	*No*



Patient Name:

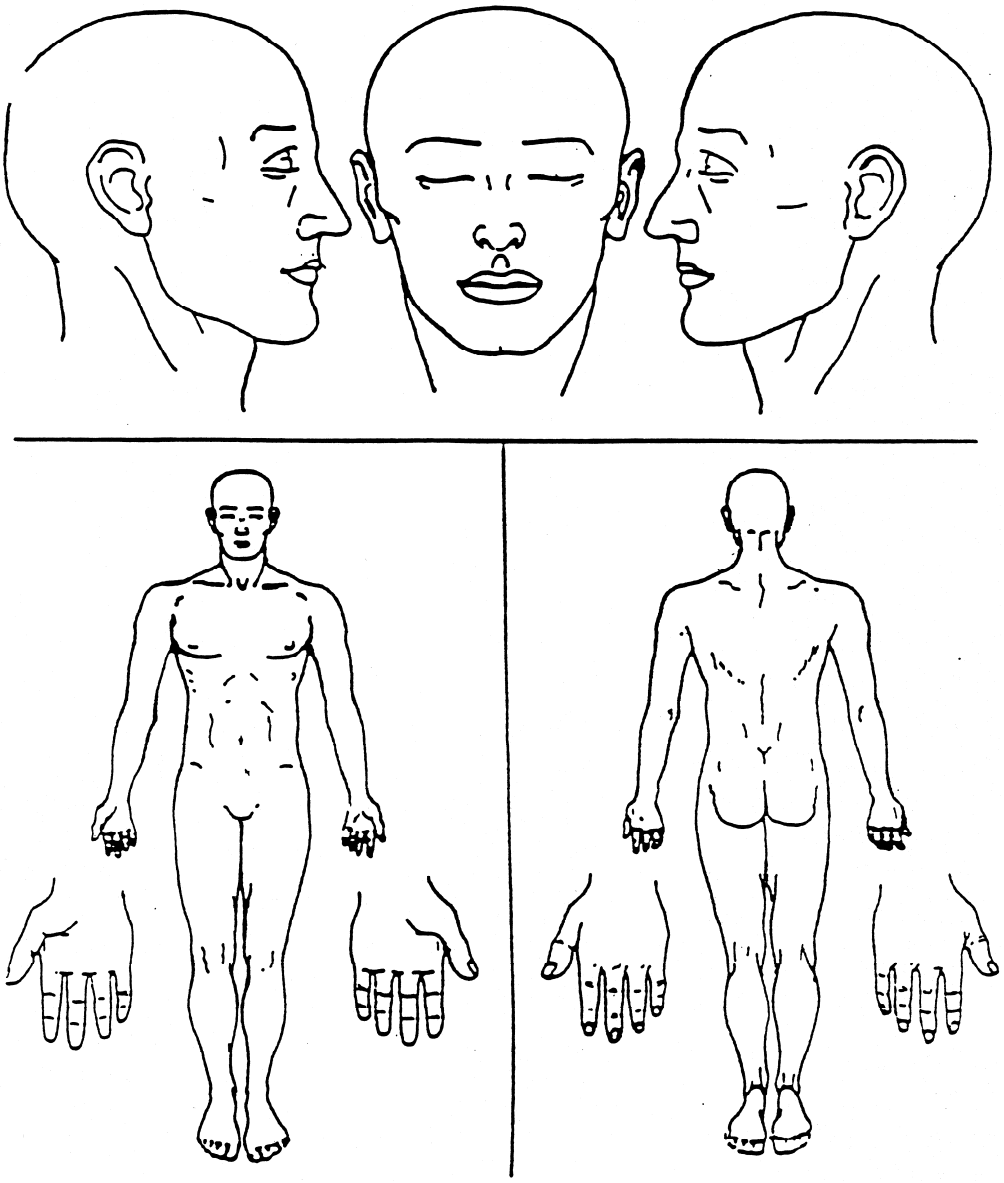
Area Treated:	Date:	Settings:



Patient name:

Area Treated:	Date:	Settings:

Treatment Record: Treatment Description and Location



Patient Name:	Consult Date:
Treatment Date & Area:	
1st:	5th:
2nd:	6th:
3rd:	7th:
4th:	8th:

Photo Consent Form

I, the undersigned, hereby give the treatment facility and its clients or agents permission for use of photographs taken of me, provided reasonable measures are taken to protect my identity. I understand these photographs may be used for either teaching or publication purposes and may include:

1. To copyright the same in their name or any other name they choose.
2. To use and publish the same in whole or in part, individually or in conjunction with other photographs, in any medium for any purpose including medical records, professional journals, medical textbook, art, illustration, promotion, advertising or trade.
3. It is understood that the use of the photographs is for illustrating cosmetic procedures and demonstration of benefits. It is also understood that the use of the photographs will in no way reveal patient identity.
4. The aforementioned photographs may be modified at the discretion of the facility, its clients, or agents to be more desirable. This would include, but would not be limited to, masking of the photographs to prevent identification or to cover private parts of the body.

I hereby release _____(the facility, its clients and agents) from any and all claims and demands arising out of or in connection with the use of the photographs.

I am of legal age.

I have read the foregoing document and fully understand its contents.

Name:

Address:

Tel:

Date:

Signature:

Parent/Guardian:

Witness:

Area(s) photographed:

Post-Treatment Care Advice

The following information is a guideline that will help ensure that the treatment is a success and that the chances of any unwanted side-effects are minimised.

Hair Removal

1. The area treated can be red and warm for a few hours after treatment. If this is uncomfortable you can cool the area with a cold flannel/towel or some other means of cooling. It is advisable to avoid ice as this may cause an “ice burn”.
2. Soothing preparations/gels can be also be applied such as Aloe Vera witch hazel or Tea Tree oil. These help soothe the area but also have antiseptic properties.
3. If you can refrain from the use of make-up that day this will also give the chance for the skin to cool naturally.
4. Leave the hairs in the follicles for at least 4 days after the treatment. This will help reduce any chances of an opportunistic infection in the damaged follicle. The hairs will drop out naturally over the following 5 - 14 days.
5. Try to use cleansing products that have been developed for sensitive skin for 2 days after treatment. Be gentle when dry or rubbing the area treated.
6. Avoid tanning beds or sunbathing for at least 7 days after the treatment.
7. If you are unsure about anything after the treatment please contact the clinic for further advice.

Skin Rejuvenation

1. The area treated can be red and warm for a few hours after treatment. If this is uncomfortable you can cool the area with a cold flannel/towel or some other means of cooling. It is advisable to avoid ice as this may cause an “ice burn”.
2. Soothing preparations can be used but they must not contain anti-inflammatory or blood thinning properties. Avoid preparations such as Aloe Vera, Tea Tree Oil, Ibuleve, Difflam, etc.
3. Avoid taking anti-inflammatory or blood thinning medication for at least 7 days if possible. Products include ibuprofen, aspirin, etc.
4. Avoid smoking and alcohol for at least two hours before and after (preferably for the whole of the day).
5. If you can refrain from the use of make-up that day this will also give the chance for the skin to cool naturally.
6. Try to use cleansing products that have been developed for sensitive skin for 2 days after treatment. Be gentle when dry or rubbing the area treated.
7. Avoid tanning beds or sunbathing for at least 7 days after the treatment.
8. If you are unsure about anything after the treatment please contact the clinic for further advice.

Patient Information Leaflet

Energist ULTRA™ Variable Pulsed Light System

The Energist UltraPlus system is the most advanced hair removal & skin rejuvenation product available. Utilising state-of-the-art Variable Pulsed Light (VPL™) technology, the ULTRA™ System can be set-up to ensure the optimal parameters to provide a safe, fast and effective treatment for every individual.

What makes this System special?
Traditionally, most cosmetic procedures have been associated with lasers. As technology has progressed, research has shown that Intense Pulsed Light units, and in particular Variable Pulsed Light (VPL™) Systems, are regularly producing better results than the laser systems originally available. Pulsed Light units are non-laser, emitting light across a broad range of wavelengths that are preferentially absorbed by the appropriate structure in the skin.

The ULTRA™ System is designed such that each light pulse comprises a number of rapid shorter pulses. These 'variable pulses' ensure more controlled absorption by the appropriate structures whilst minimising heating of the surrounding skin. This means that a greater range of hair and skin types can be safely and effectively treated than was previously possible.

How does it work?
Depending upon the treatment being carried out, light emitted from the ULTRA™ System is preferentially absorbed by the specific structure in the skin. For hair removal, the melanin in the hair absorbs this light and is heated to a temperature that permanently inhibits the hairs' growth. For skin rejuvenation, various structures can absorb the light and repair the damage caused by ageing and the sun.

What conditions can be treated?
The ULTRA™ System has been designed to provide both safe and effective hair removal and skin rejuvenation treatments.
Hair Removal: Unwanted hair can be removed from all parts of the body, including legs, chin, upper lip, bikini line, underarm, back and chest.
Skin Rejuvenation: Many skin complaints caused by ageing and sun damage can be successfully treated using the yellow light produced by the ULTRA™ System. These include: redness, rosacea, age spots, freckles, pigment changes, skin texture and fine lines.
Recent studies have shown that even active acne (Acne Vulgaris) has responded very well to phototherapy using yellow light.

Who can be treated?
The versatility of the ULTRA™ System provides a safe and effective treatment for most hair and skin types, but a consultation with a trained therapist will provide you with a complete treatment programme. As the treatments have little or no visible side-effects, effective procedures can be performed quickly with no downtime.

Treatment Process
After a full consultation with a trained therapist, a comprehensive treatment programme can be developed to match your needs and requirements. Depending upon which treatments are to be undertaken the basic procedure will stay the same:
the area to be treated will be prepared and the applicator head will be stepped across to ensure complete coverage. Due to the large applicator head treatments can be performed quickly, which we know is important with today's hectic lifestyle.

Is there anything I need to do prior to, or after, treatment?
It is advisable to stay out of the sun, and away from tanning beds, for at least 6 weeks prior to any treatment to ensure that your skin is as close as possible to its natural colour. You must ensure that all cosmetics are removed from the treatment area with a good cleanser and then allow the skin to settle. As the skin may be slightly more sensitive post-treatment it is recommended to use skin products developed for sensitive skin and again avoid the sun or tanning beds.

When will I see results?
Dependent upon the treatment performed and the area treated, results will be noticed after a series of treatments over a period of months. This is due to the body's natural hair growth cycles and skin renewal. There is no 'magic wand' that will make everything perfect, but a good skincare regimen that is devised in conjunction with your therapist will ensure the optimum results that you desire.

Basic Local Rules

Local rules for the safe use of the Energist ULTRA™ VPL System

1. A local safety supervisor must be appointed.
2. The keys to the system may only be issued to authorised people. Amendments to this list may only be made by the safety supervisor and must be supported by written authorisation.
3. The system must only be used in the designated controlled area.
4. Please be careful when moving the systems as they are heavy, and may be difficult to stop.
5. Do not eat or drink while using a system.
6. Due to derived high voltages do not poke objects into the system.
7. Due to derived high voltages **DO NOT TOUCH** bare connectors, wires or terminals.
8. Warning signs must be clearly displayed on all entrances to the controlled area to indicate clearly that the system is in use.
9. **All** people present in the controlled area when the system is about to be fired or is being fired **MUST wear protective eyewear**.
10. Suitable protection **MUST** also be provided for the patients' eyes.
11. The operator must advise other people present that he/she is about to fire the system or start a treatment.
12. When the treatment is finished or during a pause in the session the system must be placed in the standby mode.
13. Accurate records of the patient treatments must be kept.
14. **All** accidents must be reported to the Safety Supervisor.

The Safety Supervisor is:	**The first-aid contact is:**

Accident Reporting Form

Reference Number: _____

Date of Accident: _____

Operator: _____

Brief notes on Nature of Accident:

_____

_____

_____

_____

_____

_____

Action Taken:

_____

_____

_____

_____

_____

_____

Signed: _____(Safety Supervisor)

Date: _____

Action: _____

Duties of the Safety Supervisor

1. To ensure that the system is only used as specified in the local rules and operators manual.
2. To implement any clinic registration requirements as required.
3. To report any adverse incidents to the Clinic Managers.
4. Ensure that all users of the system are adequately trained and understand all procedures related to using the ULTRA™ System.
5. To monitor the list of authorised users.
6. To encourage on-going clinical staff training.
7. To encourage the use of written treatment protocols.

Name	Date Trained	Received local rules & procedures	Signature of User	Agreed by Safety Supervisor

APPENDIX B

Hair Removal Data Sheets

INDEMNITY:
The information given below is designed purely as a guide for people using an Energist system for Hair Removal. It is always advised that initial test patch/treatment shot should be carried out prior to treatment. The pulse types, energies and number of shots given below are purely a guide to the setting ranges that are commonly used for each area – they are not absolute parameters and may be varied at the discretion of the operator - and indeed should be when accommodating pigmentation, hair thickness and client sensitivity. Full indemnity is given to the manufacturer of the equipment from any claims relating to selected treatment settings other than those relating to technical faults with the system.

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Abdomen
Typical growth rate	0.3mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	14 weeks
Typical % of hairs in Anagen	30%
Typical % of hairs in Telogen	70%
Follicle Density	75 follicles per square cm
Client management issues	• Ensure area is free from all clothing material • Remove/cover any piercings in the area (do not treat within 4 weeks of a piercing) • There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will reduce frequency of waxing/plucking or other epilation • Will reduce visible presence of hairs • Wear loose clothing around the treated area for at least 24 hours • If area is to be exposed to the sun apply high factor sun protection
Treatment issues	May experience delayed erythema Try not to lie in the prone position shortly after treatment
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 20-22 Short review 6 26-28 Review
Typical pulse types	**No. ON OFF** 5 5ms 2-4ms – ST I, II & III 6 5ms 4-8ms – ST IV & V
Typical energies	22 – 32 J/cm^2
Typical No. of shots	20 – 40 female (male may be more)

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Underarms (Armpits - Axilla)
Typical growth rate	0.3mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	12 weeks
Typical % of hairs in Anagen	30 %
Typical % of hairs in Telogen	70 %
Follicle Density	65 follicles per square cm
Client management issues	• Ensure area is free of deodorant • There will always be some hair apparent. • Very rarely 100% clearance • Will take time to see the result • Will reduce inflammation of follicles • Will reduce frequency of shaving • Will reduce visible presence of hairs • Will not permanently damage lymph nodes • Use deodorant formulated for sensitive skin for 2 – 3 days post treatment
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Difficult to get in to areas May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 20-22 Short review 6 28-30 Review
Typical pulse types	No. ON OFF 5 5ms 2ms – ST I, II & III 6-8 5ms 4-6ms – ST IV & V
Typical energies	24 – 34 J/cm^2
Typical No. of shots	7 – 15 shots per underarm

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Back
Typical growth rate	0.3mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	14 weeks
Typical % of hairs in Anagen	30%
Typical % of hairs in Telogen	70%
Follicle Density	75 follicles per square cm
Client management issues	• Ensure area is free from all clothing material • There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will see reduction in in-growing hairs between treatments 1-2 • Will reduce inflammation of follicles • Will reduce frequency of waxing/shaving or other epilation • Will reduce congestion in back • Will reduce visible presence of hairs
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Is time consuming May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 20-22 Short review 6 32-34 Review
Typical pulse types	**No. ON OFF** 4 5ms 2-4ms – ST I, II & III 6 5ms 4-8ms – ST IV & V
Typical energies	28 – 36 J/cm^2
Typical No. of shots	300 – 500 area to be treated may have large variance in size

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Beard (male)
Typical growth rate	0.42mm per day
Typical Anagen duration	52 weeks
Typical Telogen duration	10 weeks
Typical % of hairs in Anagen	70%
Typical % of hairs in Telogen	30%
Follicle Density	500 follicles per square cm
Client management issues	• Will reduce inflammation of follicles • Will reduce frequency of shaving • Will take time to see results • Treated area will be smoother • Will help with PFB (pseudofolliculitis barbae) • Very rarely 100% clearance
Treatment issues	Perifollicular erythema around follicles Ensure gel covers complete area of waveguide and is adequate. Never treat over moles, raised area's & lips.
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 20-22 Short review 6 26-28 Review
Typical pulse types	**No. ON OFF** 6 5ms 2-4ms – ST I, II & III 8 5ms 4-8ms – ST IV & V
Typical energies	24 – 34J/cm²
Typical No. of shots	60 – 100

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Bikini
Typical growth rate	0.3mm per day
Typical Anagen duration	10 weeks
Typical Telogen duration	12 weeks
Typical % of hairs in Anagen	30%
Typical % of hairs in Telogen	70%
Follicle Density	70 follicles per square cm
Client management issues	• Ensure area is free from all clothing material • There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • May see reduction in in-growing hairs between treatments 1-2 • Will reduce inflammation of follicles • Will reduce frequency of waxing/shaving or other epilation • Will reduce visible presence of hairs
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Difficult to get in to areas Take particular care around clothing Take particular care around areas of increased pigmentation and sensitivity May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 20-22 Short review 6 26-28 Review
Typical pulse types	**No. ON OFF** 5 5ms 2-4ms – ST I, II & III 6 5ms 4-8ms – ST IV & V
Typical energies	24 – 34 J/cm^2
Typical No. of shots	40 – 80

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Breast (female)
Typical growth rate	0.3mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	12 weeks
Typical % of hairs in Anagen	30%
Typical % of hairs in Telogen	70%
Follicle Density	65 follicles per square cm
Client management issues	• There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will reduce frequency of waxing/plucking or other epilation • Will reduce visible presence of hairs
Treatment issues	Ensure gel covers complete area of waveguide and not just the hair bearing area Do not treat directly over the nipple area May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 20-22 Short review 6 28-30 Review
Typical pulse types	**No. ON OFF** 4/5 5ms 2ms – ST I, II & III 5/6 5ms 4-8ms – ST IV & V
Typical energies	24 – 32 J/cm^2
Typical No. of shots	8 – 20 shots per breast

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Chest (male)
Typical growth rate	0.3mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	14 weeks
Typical % of hairs in Anagen	30%
Typical % of hairs in Telogen	70%
Follicle Density	75 follicles per square cm
Client management issues	• There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will reduce frequency of waxing • Will reduce visible presence of hairs
Treatment issues	May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 22-24 Short review 6 32-34 Review
Typical pulse types	**No. ON OFF** 6 5ms 2ms – ST I, II & III 8 5ms 4-6ms – ST IV & V
Typical energies	24 – 34 J/cm^2
Typical No. of shots	150 – 250 area to be treated may have large variance in size

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Forearms (female)
Typical growth rate	0.22mm per day
Typical Anagen duration	8 weeks
Typical Telogen duration	18 weeks
Typical % of hairs in Anagen	20%
Typical % of hairs in Telogen	80%
Follicle Density	95 follicles per square cm
Client management issues	• There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will reduce frequency of waxing/shaving or other epilation • Will reduce visible presence of hairs
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Is time consuming May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 22-24 Short review 6 32-34 Review
Typical pulse types	**No. ON OFF** 5 3ms 2ms – ST I, II & III 6 5ms 4-8ms – ST IV & V
Typical energies	28 – 32 J/cm^2
Typical No. of shots	25 – 40 per arm

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Lower Leg
Typical growth rate	0.23mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	24 weeks
Typical % of hairs in Anagen	20%
Typical % of hairs in Telogen	80%
Follicle Density	60 follicles per square cm
Client management issues	• Ensure area is free from all clothing material • There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will see reduction in in-growing hairs between treatments 1-2 • Will reduce inflammation of follicles • Will reduce frequency of waxing/shaving or other epilation • Will reduce visible presence of hairs
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Use lower energies around the ankle area Take particular care around the shin area (may be more sensitive) Is time consuming The knee area doesn't always respond particularly well – inform client of this May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 22-24 Short review 6 32-34 Review
Typical pulse types	**No. ON OFF** 4 5ms 2-4ms – ST I, II & III 6 5ms 4-8ms – ST IV & V
Typical energies	24 – 34 J/cm^2
Typical No. of shots	350 – 550 area to be treated may have large variance in size

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Top lip/chin (female)
Typical growth rate	0.4mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	6 weeks
Typical % of hairs in Anagen	65%
Typical % of hairs in Telogen	35%
Follicle Density	500 follicles per square cm
Client management issues	• Ensure area is free of cosmetics • There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • May see reduction in in-growing hairs between treatments 1-2 • Will reduce inflammation of follicles • Will reduce frequency of waxing/plucking or other epilation • Will reduce visible presence of hairs • Do not apply make up to area for 12 - 24 hours • Use products formulated for sensitive skin for 2 - 3 days post treatment
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Do not treat directly over the lips Apply white card over and skin lesions (moles etc) May experience delayed erythema Apply high factor sun protection after treatment and advise of post-treatment skin protection
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 12-16 Short review 5 18-22 Short review 6 24-28 Review
Typical pulse types	**No. ON OFF** 4 5ms 2-4ms – ST I, II & III 6-8 5ms 4-8ms – ST IV & V 5 3ms – for fine hair (regardless of off time)
Typical energies	24 – 30 J/cm^2
Typical No. of shots	4 – 8 (top lip) 20 – 40 (chin & jaw line)

Energist Limited Hair Reduction Data Sheet – Use with Energist Products Only	
Area to be treated	Upper Leg
Typical growth rate	0.22mm per day
Typical Anagen duration	16 weeks
Typical Telogen duration	24 weeks
Typical % of hairs in Anagen	20%
Typical % of hairs in Telogen	80%
Follicle Density	60 follicles per square cm
Client management issues	• Ensure area is free from all clothing material • There will always be some hair apparent • Very rarely 100% clearance • Will take time to see the result • Will see reduction in in-growing hairs between treatments 1-2 • Will reduce inflammation of follicles • Will reduce frequency of waxing/shaving or other epilation • Will reduce visible presence of hairs
Treatment issues	Ensure gel covers complete area of waveguide and not just hair bearing area Is time consuming May experience delayed erythema
Typical treatment timing	**Tx Week Consultation** 1 0 Consultation/Review/Photo 2 4 Short review 3 8-10 Review -------Review & Photo before 4th treatment------- 4 14-16 Short review 5 22-24 Short review 6 32-34 Review
Typical pulse types	**No. ON OFF** 4 5ms 2-4ms – ST I, II & III 5-7 3ms - for fine hair 6 5ms 4-8ms – ST IV & V
Typical energies	24 – 34 J/cm^2
Typical No. of shots	400 – 650 area to be treated may have large variance in size

Appendix C

Guidance and manufacturers declaration – EMC Topics

Guidance and manufacturer's declaration – electromagnetic emissions		
UltraPlus is intended for use in the electromagnetic environment specified below. The customer or the user of the system should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	UltraPlus uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	UltraPlus is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions	Complies	

Guidance and manufacturer's declaration – electromagnetic immunity			
UltraPlus is intended for use in the electromagnetic environment specified below. The customer or the user of the system should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± 6kV contact ± 8kV air	± 6kV contact ± 8kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30% RH.
Electrical fast transient/burst IEC 61000-4-4	± 2kV for power supply lines ± 1kV for input/output lines	± 2kV for power supply lines ± 1kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1kV differential mode ± 2kV common mode	± 1kV differential mode ± 2kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0,5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec.	<5% U_T (>95% dip in U_T) for 0,5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec.	Mains power quality should be that of a typical commercial or hospital environment. If the user of UltraPlus requires continued operation during mains power interruptions, it is recommended that the system be powered from an uninterruptible power supply or a battery.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the AC mains power voltage prior to application of the test level.			

Guidance and manufacturer's declaration – electromagnetic immunity			
UltraPlus is intended for use in the electromagnetic environment specified below. The customer or the user of the system should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
			Portable and mobile RF communications equipment should be used no closer to any part of the UltraPlus, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance:**
Conducted RF IEC 61000-4-6	3Vrms 150kHz to 80MHz	3Vrms	$d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3V/m 80MHz to 2.5GHz	3V/m	$d = 1.2\sqrt{P}$ 80M to 800MHz $d = 2.3\sqrt{P}$ 800M to 2.5GHz where *P* is the maximum output power rating of the transmitter in Watts [W] according to the transmitter manufacturer and *d* is the recommended separation distance in meters [m]. Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a], should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked with the following symbol:
NOTE 1: At 80MHz and 800MHz, the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the UltraPlus is used exceeds the applicable RF compliance level above, the UltraPlus should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the UltraPlus system. [b] Over the frequency range 150kHz to 80MHz, field strengths should be less than 3V/m.			

Recommended separation distances between portable and mobile RF communications equipment and the UltraPlus system

The UltraPlus is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the UltraPlus system can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and UltraPlus as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter / W	**Separation distance according to frequency of transmitter / m**		
	150kHz to 80MHz $d = 1.2\sqrt{P}$	**80MHz to 800MHz** $d = 1.2\sqrt{P}$	**800MHz to 2.5GHz** $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters [m] can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts [W] according to the transmitter manufacturer.

NOTE 1: At 80MHz and 800MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.